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The Burlington Northern/Santa Fe Railroad Corridor Soundwall Project

Responses to Comments

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Prepared for:

The City of Anaheim
200 South Anaheim Boulevard
Anaheim, California 92805

Prepared by:

BonTerra Consulting
151 Kalmus Drive, Suite E-200
Costa Mesa, California 92626
(714) 444-9199

Contact: Joan Patronite Kelly, AICP
Principal

May 31, 2001

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SECTION 1
INTRODUCTION AND SUMMARY

The purpose of this document is to present public comments, and responses to comments received on the BNSF Soundwall Environmental Impact Report (State Clearinghouse Number 2000041105). The project is located in BNSF right-of-way between the Cities of Anaheim and Yorba Linda and unincorporated Orange County, California.

The EIR was circulated for a 45-day public review and comment period beginning February 13, 2001 and ending March 29, 2001. As required by the California Environmental Quality Act (CEQA), the EIR responds to comments regarding "significant environmental points raised in the review and consultation process" (State CEQA Guidelines Section 15132 (d)). Comments submitted on the EIR about conclusions identified in the EIR findings or clarifications about methodology used in the preparation of technical analyses have been responded to. The Response to Comments (RTC) document provides revisions and clarifications to the EIR, as appropriate.

This RTC document is part of the EIR which includes the Draft EIR and any revisions made to it. In addition to the Draft EIR and these responses to comments, the Final EIR includes the related staff reports and other information contained in the environmental record.

The Responses to Comments document is divided into four sections. In addition to this introduction, Section 2 provides a list of commentors. Section 3 contains the copies of the letters received with each comment bracketed and numbered. These numbers correspond to the response on the pages immediately following each letter. Section 4 lists clarifications and revisions made to the EIR.

SECTION 2
LIST OF COMMENTORS AND RESPONSES

The following is the listing of comments received on the EIR. After the name of each commentor is a notation in parentheses. This notation is used to index the responses provided in Section 3.

Commentors	Date of Correspondence
Public Agencies And Service Providers	
Regional Agencies	
Department of Transportation (CT)	March 23, 2001
Southern California Association of Governments (SCAG)	April 2, 2001
Local Agencies	
City of Yorba Linda (CYL)	December 26, 2000
City of Yorba Linda (YL)	March 28, 2001
County of Orange (CO)	March 29, 2001
Orange County Transportation Authority (OCTA)	March 12, 2001
Other	
Jim Hill (JH)	March 29, 2001
Submitted Petition from residents of Anaheim (SP)	March 28, 2001
Karen Morey (KM)	March 6, 2001

SECTION 3
COMMENTS AND RESPONSES ON
TO FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT 1278

Six comment letters were received during the public review period. The City has used its best efforts to provide specific responses to each of the specific comments received on the EIR. The responses follow. Comment letters received on the EIR are provided with each comment bracketed and numbered. These numbers correspond to the response on the page immediately following the letter.

LETTER RECEIVED FROM
THE CALIFORNIA DEPARTMENT OF TRANSPORTATION
(CT)

dated March 23, 2001

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
3337 MICHELSON DRIVE, SUITE 380
IRVINE, CA 92612

RECEIVED
MAR 28 2001
PUBLIC WORKS
DEPARTMENT

March 23, 2001

FILE: IGR/CEQA
SCH#2000041105
Log#728

Eric Wiebke
City of Anaheim
200 South Anaheim Boulevard
Anaheim, CA.92805

Subject: Burlington Northern/Santa Fe Railroad Corridor Soundwall Project.

Dear Mr. Wiebke,

Thank you, for the opportunity to review and comment on the Draft Environmental Impact Report for the Burlington Northern/Santa Fe Railroad Corridor Soundwall Project. The proposed project involves the construction of a soundwall, approximately 3,930 meters in length along the southern border of the railroad right-of way, extending from Imperial Highgway (SR-90) to Yorba Linda Boulevard/Weir Canyon Road.

Caltrans District 12 is a responsible agency and has the following comments for your consideration.

Environmental Issues:

1) Section 2.3 Project Approval Actions indicates that the project is subject to funding from the federal government and is also subject to NEPA. As such, an appropriate NEPA documentation should be included with the Environment Impact Report, or as referenced appropriately. **CT -1**

2) The project site overlaps a current Caltrans grade separation project (EA 056200) on SR 90 and Orangethorpe Avenue/ Esperanza Road. The City of Anaheim should contact Caltrans Project Manager Pija Ansari [(949) 440-4497] prior to construction and coordinate activities with Caltrans Project Management and Local Assistance. **CT -2**

3) Exhibit 3-2, Project Location needs to clearly label the Santa Ana River. **CT -3**

4) Section 4.1, Noise and the Noise Study do not address the contribution of noise from SR 90 and the SR 90 grade separation project. **CT - 4**

5) In Section 4.3.1 *Existing Conditions, Flood Hazard* (pg. 4-9), please specify the date and map number of the Federal Emergency Management (FEMA) Flood Insurance Rate Map (FIRM) used for this project. **CT -5**

6) Section 4.3.2 *Methodology, Computation Procedures and Assumptions* (pg. 4-10) incorrectly references Appendix 3 as the "Hydrology Report." Section 4.3.2 should refer to Appendix 5 (*Interim Drainage Report*). Appendix 3 is entitled "Demonstration Soundwall Insertion Loss and Absorption Coefficients." Please note that the Hydrology Maps are in Appendix A of the *Interim Drainage Report* and not Appendix 1 of the *Hydrology Report*. Similarly, Hydrologic Computations are in Appendix B of the *Interim Drainage Report* and not Appendix 2 of the *Hydrology Report*. Please make the necessary corrections. **CT -6**

7) Section 5.1.2, Lowering the Railroad Tracks Alternative, indicates that this alternative was considered but rejected. However, there has been discussion that this alternative is viable. Please verify that the Lowering the Railroad Tracks Alternative has indeed been eliminated. **CT -7**

8) This project is located within the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). Any runoff draining into Caltrans Right of Way from construction operations or from the resulting project must fully conform to the current discharge requirements of the Regional Water Quality Control Board to avoid impacting water quality. Measures must be incorporated to contain all vehicle loads and avoid any tracking of materials, which may fall or blow onto Caltrans roadways or facilities. **CT -8**

9) Construction activity is adjacent to SR 90. If any construction activity falls within Caltrans Right of Way (e.g. Imperial Highway), an Encroachment Permit is required. When an Encroachment Permit from Caltrans is required, the applicant should submit a copy of the Storm Water Pollution Prevention Plan for the project to Environmental Planning - Branch B prior to permit approval. All activities or consequences from activities within Caltrans Right of Way must fully conform to the Caltrans Statewide NPDES Permit (Order No. 99-06-DWQ, NPDES No. CAS000003) in addition to the Statewide NPDES Permit for General Construction Activities (Permit No. CAS000002) (**please see attached**). **CT -9**

10) Before Encroachment Permit approval and project construction, applicant must complete a *Cultural Resource Assessment* pursuant to Caltrans Environmental Handbook, Volume 2, Appendix B-1, and Exhibit 1, as amended. The Cultural Resources Assessment ascertains the presence or absence of cultural resources within a one-mile radius of the project area and evaluates the impact to any historical/cultural resource. Cultural Resources include "those resources significant in American history, architecture, archaeology, and culture, including Native American Resources" (Caltrans Environmental Handbook, Volume2, Chapter1, as amended)]. The Cultural Resource Assessment must include: **CT -10**

a) a Record Search conducted at the South Central Coastal Information Center located at California State University, Fullerton. For information call (714) 278-5395;
b) proof of Native American consultation. Consultation involves contacting the Native American Heritage Commission (NAHC), requesting a search of their Sacred Lands File, and following the recommendations provided by the NAHC. For information call (916) 653-4082;
c) documentation of any historic properties (e.g. prehistoric and historic sites, buildings, structures, objects, or districts listed on, eligible for, or potentially eligible for listing on the National Register of Historic Places) within a one mile radius of the project area;
d) and a survey by a qualified archaeologist for all areas that have not been previously researched.

CT -10 cont.

Soundwall Issues:

It should be noted that one of the alternatives for Caltrans' project (grade separation) requires an approximately 5 meter high soundwall to be constructed along the northbound side of the Imperial Highway. The purpose of providing this soundwall is to reduce future noise levels for the residences on the northeast and southeast quadrants at the intersection of Imperial Highway and Orangethorpe /Esperanza Road. However, constructing an approximately 8 meter high soundwall (BNSF's Soundwall south of railroad) south of the existing BNSF's railroad may result in echoing and bouncing effect of the noise energy generated from the combination from the two soundwalls (Caltrans' soundwall extending north to south and BNSF's soundwall extending eat to west). It is our opinion that this combination may result in an increase in noise levels for the residences on the northeast and southeast quadrants. Therefore, it is our opinion that the EIR needs to address this issue as well.

CT -11

We appreciate the opportunity to comment on this document. If you have any questions or need to speak to someone please contact Aileen Kennedy on (949) 724-2239.

Sincerely,

Robert F. Joseph, Chief
Advanced Planning Branch

C: Terry Roberts, OPR
Ron Helgeson, HDQRTS Planning
Reza Aurasteh, Environmental Engineering
Leslie Manderscheid, Environmental Planning
Pija Ansari, Project Management

ATTACHMENT
CALTRANS DISTRICT 12
ENCROACHMENT PERMIT

WATER POLLUTION CONTROL PROVISIONS

Any runoff draining into Caltrans Right of Way must fully conform to the current discharge requirements of the Regional Water Quality Control Board (RWQCB) to avoid impacting water quality. Permittee will fully conform to the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit, Order No. 99-06-DWQ, NPDES No. CAS000003, adopted by the State Water Resources Control Board on July 15, 1999, in addition to the BMPs specified in the Caltrans Storm Water Management Plan (SWMP). When applicable, the Permittee will also conform to the requirements of the General NPDES Permit for Construction Activities, Order No. 99-08-DWQ, NPDES No. CAS000002, and any subsequent General Permit in effect at the time of issuance of this Encroachment Permit. These permits regulate storm water and non-storm water discharges associated with year-round construction activities.

Please note that project activities should pay extra attention to storm water pollution control during the "Rainy Season" (October 1st – May 1st) and follow the Water Pollution Control BMPs to minimize impact to receiving waters. Measures must be incorporated to contain all vehicle loads and avoid any tracking of materials, which may fall or blow onto Caltrans Right of Way.

For all projects resulting in 2 hectares (5 acres) or more of soil disturbance or otherwise subject to the NPDES program, the Contractor will develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) conforming to the requirements of the Caltrans Specification Section 7-1.01G "Water Pollution Control", Caltrans Statewide NPDES Permit, the General NPDES Permit for Construction Activities, and the Caltrans Storm Water Quality Handbooks "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual", and "Construction Site Best Management Practices (BMPs) Manual" effective November 2000, and subsequent revisions.

For all projects resulting in less than 2 hectares (5 acres) of soil disturbance or not otherwise subject to the requirements of the NPDES program, the Contractor will develop, implement, and maintain a Water Pollution Control Program (WPCP) conforming to the requirements of Caltrans Specifications Section 7-1-.01G, "Water Pollution Control", and the Caltrans Storm Water Quality Handbooks "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual", and "Construction Site Best Management Practices (BMPs) Manual" effective November 2000, and subsequent revisions.

Copies of the Permits and the Construction Contractor's Guide and Specifications of the Caltrans Storm Water Quality Handbook may be obtained from the Department of Transportation, Material Operations Branch, Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815, Telephone: (916) 445-3520. Copies of the Permits and Handbook are also available for review at Caltrans District 12, 3347 Michelson Drive, Suite 100, Irvine, California 92612, Telephone: (949) 724-2260. Electronic copies can be found at http://www.dot.ca.gov/hq/construc/stormwater.html

Response to Comments from Caltrans dated March 23, 2001

CT-1: Your comment is noted. Per Caltrans' guidelines, a Preliminary Environmental Study (PES) was prepared for the project. The PES found that the project was Categorically Excluded from further NEPA analysis. Appropriate text is added to the Final EIR. The following text is hereby incorporated into the end of the first paragraph of Section 2.3:

> "Pursuant to Caltrans' guidelines, a Preliminary Environmental Study (PES) was prepared for the project. The PES concluded that the project is Categorically Excluded from further NEPA analysis."

CT-2: The City of Anaheim will contact Caltrans prior to construction and coordinate activities regarding possible overlap of the current Caltrans grade separation project on SR-90 and Orangethorpe Avenue.

CT-3: The revised exhibit is presented in Section 4 of this RTC.

CT-4: Any effects caused by the construction of the SR-90 grade separation project would be considered an impact which must be analyzed during that project's approval process. All soundwall project related impacts both individually and/or concurrently with other approved projects have been mitigated to the extent feasible.

CT-5: The fourth paragraph of Section 4.3.1 is hereby revised to read as follows:

> "The project site is not within a flood zone according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06059C0009 with an effective date of September 15, 1989."

CT-6: The last sentence of the first paragraph of Section 4.3 is hereby revised to read as follows:

> "The preliminary drainage report is included in its entirety in Appendix 5."

The first paragraph following ***Methodology, Computation Procedures and Assumptions*** in Section 4.3.2 is hereby revised to read as follows:

> "The Preliminary Drainage Report (Appendix 5) for this project contains hydrology maps showing drainage boundaries, areas, storm drain facilities and discharge rates (Appendix A of the Preliminary Drainage Report). Hydrologic computations are contained in Appendix B of the Preliminary Drainage Report. The methodology of analysis is contained in Section 5.2, page 3 of the Preliminary Drainage Report."

CT-7: The Lowering the Railroad Tracks Alternative has been removed from consideration because it would not meet the primary project objective of reducing noise levels for City of Anaheim residents to below City of Anaheim Noise Standards. Additionally, this alternative would be prohibitively expensive and the cost would be many times the amount currently earmarked by federal legislation for soundwall construction.

CT-8: Additionally, there is no intent to use Caltrans ROW to access the subject property. Mitigation Measure 3-1 requires the City of Anaheim prepare a Storm Water Pollution Prevention Plan (SWPPP) subject to the approval of the Regional Water Quality Control Board (RWQCB). Measures to avoid tracking of materials onto Caltrans right-of-way (ROW) would be incorporated during the SWPPP approval process as deemed necessary by the RWQCB. Implementation of Best Management Practices (BMPs) would minimize tracking of materials onto Caltrans ROW.

CT-9: The proposed project would be constructed entirely within Burlington Northern Santa Fe property. There is no intent to access the project from Caltrans ROW at any point along the alignment. Therefore, no encroachment permit would be required.

CT-10: See response to comment CT-9.

CT-11: The sound absorbent properties of the proposed soundwall would prevent echoing or rebound of noise generated by the cumulative effect of the construction of the SR-90 grade separation. However, the construction of the SR-90 project could result in noise rebound over the proposed soundwall to residential areas to the southeast or residential areas to the northeast and southwest. These potential impacts resulting from the construction of the SR-90 project should be analyzed during that project's approval process.

LETTER RECEIVED FROM
THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
(SCAG)

dated April 2 , 2001

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435

t (213) 236-1800
f (213) 236-1825

www.scag.ca.gov

...: • President: Mayor Pro Tem Ron Bates, ... Los Alamitos • Second Vice President: Councilmember Hal Bernson, Los Angeles • Immediate Past President: Supervisor Zev Yaroslavsky, Los Angeles County

...al County: Hank Kuiper, Imperial County • ...hillon, El Centro

Los Angeles County: Yvonne Brathwaite Burke, Los Angeles County • Zev Yaroslavsky, Los Angeles County • Eileen Ansari, Diamond Bar • Bob ... Monrovia • Bruce Barrows, Cerritos • ... Bass, Bell • Hal Bernson, Los Angeles • ... Christiansen, Covina • Robert Bruesch, Rosemead • Laura Chick, Los Angeles • Gene Daniels, Paramount • Jo Anne Darcy, Santa Clarita • John Ferraro, Los Angeles • Michael Feuer, Los ... • Ruth Galanter, Los Angeles • Ray ...ki, Long Beach • Dee Hardison, Torrance • ...ernandez, Los Angeles • Nate Holden, Los ... • Lawrence Kirkley, Inglewood • Keith McCarthy, Downey • Cindy Miscikowski, Los Angeles • Stacey Murphy, Burbank • Pam O'C...or, Santa Monica • Nick Pacheco, Los ... • Alex Padilla, Los Angeles • Beatrice Proo, ...era • Mark Ridley-Thomas, Los Angeles • ... Riordan, Los Angeles • Karen Rosenthal, Claremont • Marcine Shaw, Compton • Rudy Svorinich, Los Angeles • Paul Talbot, Alhambra • Sid... Tyler, Jr., Pasadena • Joel Wachs, Los Angeles ...Walters, Los Angeles • Dennis Washburn, ... • Rob Webb, Long Beach

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Riverside County: Bob Buster, Riverside County • Ron Loveridge, Riverside • Greg Pettis, Cathedral City • Andrea Puga, Corona • Ron Roberts, ... • Charles White, Moreno Valley

...rnardino County: Jon Mikels, San ...dino County • Bill Alexander, Rancho Cucamonga • Jim Bagley, Twentynine Palms • David Eshleman, Fontana • Lee Ann Garcia, Grand Terrace • ... Norton-Perry, Chino Hills • Judith Valles, ...rdino

... County: Judy Mikels, Ventura County • Donna De Paola, San Buenaventura • Glen Becerra, Simi Valley • Toni Young, Port Hueneme

Riv... County Transportation Commission: ...owe, Hemet

... County Transportation Commission: Bill Davis, Simi Valley

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RECEIVED
APR 03 2001
PUBLIC WORKS DEPARTMENT

April 2, 2001

Mr. Eric Wiebke
Project Manager
City of Anaheim, Department of Public Works
P. O. Box 3222
Anaheim, CA 92803

RE: SCAG Clearinghouse I20010157 The Burlington Northern/Santa Fe Railroad Corridor Soundwall Project

Dear Mr. Wiebke:

We have reviewed the above referenced document and determined that it is not regionally significant per Areawide Clearinghouse criteria. Therefore, the project does not warrant clearinghouse comments at this time. Should there be a change in the scope of the project, we would appreciate the opportunity to review and comment at that time.

SCAG -1

A description of the project will be published in the **April 1, 2001** Intergovernmental Review Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1867.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Planner
Intergovernmental Review

Response to Comments from the Southern California Association of Governments (SCAG) dated April 2, 2001

SCAG-1 Your comment is noted.

LETTER RECEIVED FROM
THE CITY OF YORBA LINDA
(CYL)

dated December 26, 2000

CITY OF YORBA LINDA
P. O. BOX 87014 CALIFORNIA 92885-8714 (714) 961-7170
FAX 966-1010
ENGINEERING / PUBLIC WORKS

December 26, 2000

RECEIVED
DEC 27 2000
PUBLIC WORKS
DEPARTMENT

Mr. Gary Johnson, P.E.
Director of Public Works/City Engineer
City of Anaheim
P.O. Box 3222
Anaheim, CA 92803

Subject: Burlington Northern Santa Fe Corridor Soundwall Project

Dear Gary:

At the City Council meeting of December 18, 2000, my office submitted a written staff report to the Council regarding the proposed soundwall project. A copy of that a report is enclosed. Following a staff presentation, the City Council directed my office to communicate with the City of Anaheim Yorba Linda's desire to include a visual barrier in substantial conformance to Alternate 3B of the Tetra Tech ASL study in order to mitigate the effects of the height of your soundwall as proposed. They also directed staff to work with our consultant, Mestre Greve Associates, to continue efforts with your consultant to modify design parameters for the soundwall in an effort to reduce its height.

The City Council also reiterated the City's position that since this soundwall is to be constructed within the City limits of the City of Yorba Linda, that the City of Yorba Linda should co-certify, along with the City of Anaheim, the Environmental Impact Report prepared for the project. In addition, in accordance with the Yorba Linda Municipal Code, approval of a variance by the Yorba Linda Planning Commission is required prior to construction of any wall over 6' in height. And finally, that a building permit for the wall be issued by the Yorba Linda Building Department along with an encroachment permit issued by the Yorba Linda Engineering Department for construction of this wall within our City limits. CYL -1

The City Council made it very clear that for this project to move forward, mitigation of the height of your wall in the form of a landscaped berm and wall must be constructed concurrently with the soundwall project. CYL -2

Table 3 Noise Modeling Results Revised 5/21/01

	Mile Post		Exterior Wall Height to Meet 65 CNEL at 6 ft above Grade **	Exterior CNEL at 16 ft. Above Grade with Soundwall			Exterior Wall Height to Strive to Meet 45 CNEL **
	West	East	m	Nearest Residences	At 66 m	At 180 m	m
A	62840	62710	4.0 (-0.7)	65	62	55	4.0 (-0.7)
A'	62710	62580	4.0 (-0.7)*	65	62	55	4.4* (-0.3)
B	62580	62550	4.2 (-0.2)	NA	NA	NA	4.4
C	62550	62390	3.5 (-1.8)	NA	NA	NA	4.4 (-0.9)
D	62390	62230	3.5 (-2.7)	NA	NA	NA	4.0 (-2.2)
E	62230	62070	4.5 (-1.6)	NA	NA	NA	5.0 (-1.1)
F	62070	62010	4.5 (-1.6)	NA	NA	NA	5.0 (-1.1)
G	62010	61760	3.5 (-3.2)*	65	62	56	4.0* (-2.7)
H	61760	61580	3.0 (-3.7)	65	62	55	3.0 (-3.7)
	61580	61540					
I	61540	61190	3.5 (-1.0)	67	63	57	4 (-0.5)
J	61190	60960	4.0 (-0.5)	67	63	58	5.5 (+1.0)
K	60960	60580	6	67	63	59	6.5 (+0.5)
L	60580	60440	7	67	63	60	8 (+1.0)
M	60440	60220	6.5	66	62	59	6.5
N	60220	59980	5.5	66	63	59	5.5
O	59980	59920	4.8	67	63	58	6 (+1.2)
P	59920	59860	4.3	67	63	58	4.5 (+0.2)
Q	59860	59740	3.8 (-0.4)	66	63	58	5 (+0.8)
R	59740	59700	3.5 (-0.6)	68	64	59	6 (+1.9)
S	59700	59660	3.5 (-0.5)	65	63	58	4
T	59660	59560	4	67	63	58	5 (+1.0)
U	59560	59480	4.5	67	63	58	6 (+1.5)
V	59480	59370	6	67	63	58	8 (+2.0)
W	59370	59180	6	66	63	58	6
X	59180	59100	4.3	67	63	58	5 (+0.7)
Y	59100	58990	3.5 (-0.8)	67	64	57	4.5 (+0.2)
Z	58990	58950	0.6(-3.7)	67	65	57	1 (-3.3)

* Height of wall needs to be higher at this location to protect adjacent mobile home units.

** Numbers in parenthesis are the change in wall height from the proposed wall heights in reference 1.

NA—Not Applicable.

We look forward to working with you to implement a project that will be mutually acceptable to both cities.

Sincerely,

Roy F. Stephenson, P.E.
Director of Public Works/City Engineer

RFS:dw

Encl.

cc Ken Ryan, Mayor
Terry Belanger, City Manager
Pat Haley, Planning Director
Leonard Hampel, City Attorney
Chris Johansen, Senior Civil Engineer
Fred Greve, Mestre Greve Associates

CITY OF YORBA LINDA

CITY ENGINEER'S REPORT

DATE OF COUNCIL MEETING: DECEMBER 18, 2000

TO: HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL

FROM: ROY STEPHENSON, DIRECTOR PUBLIC WORKS/CITY ENGINEER

SUBJECT: BNSF CORRIDOR SOUNDWALL PROJECT/CITY OF ANAHEIM

REPORT NO.: 2000-202

BACKGROUND

The City of Anaheim is currently designing a soundwall, to be located on the south side of the BNSF railroad tracks, to protect their residents from train noise. This project is being funded by a $12 million federal grant. The City of Anaheim has retained Tetra Tech ASL to design the soundwall and Bonterra Consulting to prepare the Environmental Impact Report.

The preliminary design proposes soundwall heights that range from 7.9 ft. to 41.3 ft. high between Imperial Highway and Yorba Linda Boulevard. This soundwall will be built within the city limits of the City of Yorba Linda and, if the height of this wall is not reduced in height or mitigated with appropriate screening, the adverse impact to Yorba Linda would be substantial.

Following a recent meeting with the mayors of both cities and key City staff members, it was agreed that this project should be designed and built in such a manner as to achieve the desired visual appearance and noise reduction without adversely affecting either city.

ANALYSIS

My office has, on numerous occasions, expressed concern to the City of Anaheim staff regarding issues of the soundwall height dictated by questionable design parameters established by the City of Anaheim. In response to this, the City Council authorized the retention of our own noise consultant, Mestre Greve Associates, to review the Anaheim technical studies. Following our consultant review, we have communicated to the City of Anaheim that we believe this soundwall can be lowered by refining critical technical assumptions as well as modifying their requirement that the soundwall be constructed at "eave" level of the adjacent homes. We believe these wall heights can be substantially reduced by re-evaluating the studies previously conducted and removing the "eave" level constraint. CYL -3

Concurrent with our request to have Anaheim re-evaluate design parameters, we asked that they perform a study of the feasibility and costs associated with constructing a visual barrier along the south side of Esperanza Road. In addition to blocking the line of sight of a high soundwall, the new barrier would have the added benefit of screening the railroad tracks from Esperanza Road. In CYL -4

effect a "tunnel" would be created by placement of walls on both the north and south side of the railroad right-of-way, which would benefit both cities.

Attached to this report is a copy of the technical memorandum prepared by Tetra Tech ASL in response to our request. The alternatives are as follows:

Alternative 1 maintains the existing curb and street width on Esperanza Road and adds landscaping between the northerly railroad right-of-way and the southerly Esperanza Road curb. The estimated cost for this alternative is $1,430,000.

Alternative 2A proposes to add an earthen berm in conjunction with landscaping to screen the view of the soundwall. The estimated cost for this alternative is $1,630,000.

Alternative 2B is similar to Alternative 2A but instead of adding trees on the berm, a sound-absorbing wall is proposed. The estimated cost for this alternative is $1,800,000.

Alternative 3A proposes to shift the existing south curb northerly to allow the existing bikeway to remain off-road with the construction of a landscaped berm. The estimated cost for this alternative is $3,000,000.

Alternative 3B is similar to Alternative 3A except replacing the trees on the berm with a sound-absorbing wall. The estimated cost for this alternative is $3,340,000.

CYL -4 con

Staff is supportive of Alternative 3B as an appropriate noise and visual mitigation of the Anaheim soundwall in that it effectively screens the Anaheim soundwall while providing noise and aesthetic benefits to areas lying northerly of the railroad right-of-way in the City of Yorba Linda.

FISCAL IMPACT

This project is funded by a federal grant and may not have enough money in the current grant to fund Alternative 3B. Accordingly, additional federal funds will need to be pursued.

RECOMMENDATION

CYL -5

It is recommended that the City Council direct staff to communicate to the City of Anaheim the City of Yorba Linda's desire to include a landscaped berm and soundwall in the project in substantial conformance to Alternative 3B in their project design and environmental documentation. Also direct staff and our consultant, Mestre Greve Associates, to continue efforts to modify design parameters for the soundwall to reduce its height.

Response to Comments from the City of Yorba Linda dated December 26, 2000

CYL-1 The City of Anaheim acknowledges that the project is located in the City of Yorba Linda and certain unincorporated portions of the County of Orange, all within the BNSF railroad right-of-way. The project itself is a mitigation measure, consistent with the railroad's use, intended to address its noise impacts.

The City of Anaheim further acknowledges that the project is subject to the requirements of CEQA and that it is required to obtain a determination of conformance of the project with the City of Yorba Linda's general plan. However, Anaheim is not bound by Yorba Linda's determination of conformance with its general plan.

Cities and counties are not bound by each other's general plans, or by each other's zoning and building regulations. (*Lawler v. City of Redding*, 9 Cal. Rptr. 2d 392, 395-396) The Legislature addressed the issue of intergovernmental immunity in the Government Code, commencing with Section 53090. Section 53090 does not include cities and counties in its definition of "local agencies". Section 53091 requires that local agencies (not including cities and counties) comply with cities' and counties' zoning and building regulations. The California Attorney General held that the exemption of cities and counties from each other's building and zoning ordinances is implicit in Section 53090, since it excludes cities and counties from the definition of "local agencies". (40 Ops. Cal. Atty. Gen. 243, 245-247 [1962]) The *Lawler* case acknowledged this as follows:

> "After considering the legislative history of sections 53090 through 53095, the Attorney General concluded the Legislature intended to 'cover the whole field of intergovernmental regulation with respect to building and zoning ordinances' and to 'set at rest the broad problem [of] the ability of a city or county to enforce its building and zoning ordinances against any other local governmental unit acting within its boundaries. (*Lawler v. City of Redding*, at p. 395, citing 40 Ops. Cal.Atty.Gen. 243)

Consequently, the City of Yorba Linda has no discretionary approval power over the project, and is not a responsible agency under CEQA (CEQA Guidelines, §15381). However, the City of Anaheim will fully comply with CEQA and will continue to work cooperatively with the City of Yorba Linda to address impacts of the project.

CYL-2 See response to comment CYL-1. The City of Yorba Linda has no discretionary approval power over the project, and is not a responsible agency under CEQA (CEQA Guidelines, §15381). The project is compliant with Section 15021 of the *CEQA Guidelines* and meets the criteria for a finding of overriding considerations regarding significant impacts to aesthetics. As discussed in Section 5 of the EIR, none of the project alternatives or alternative design components (including the mitigation measures promulgated by the City of Yorba Linda) are considered feasible as they are either inconsistent with project objectives or are not "capable of being accomplished in a successful manner and in a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." The City of Anaheim will fully comply with CEQA and will continue to work cooperatively with the City of Yorba Linda to address impacts of the project.

CYL-3 In response to questions raised by the City of Yorba Linda regarding the need to break

the line of sight between the top of the locomotives and the top of the exterior wall of all habitable structures the City of Anaheim has prepared an evaluation of wall heights to meet the following noise criteria:

1. a maximum of 65 dB CNEL exterior at a point six feet above ground level; and/or

2. a maximum of 45 dB CNEL interior for any habitable rooms, including second story rooms, with the windows closed

The noise modeling effort found that the use of these criteria results in a net decrease in wall height with decreased wall heights in certain locations and increased wall heights in others. The following table summarizes the findings of the modeling effort. Wall heights displayed in the following table comply with the requirements of City of Anaheim Council Policy 542 and the project objectives and are hereby incorporated into project design. The referenced noise modeling effort is hereby incorporated as Appendix 14 of the final EIR.

TABLE 3
NOISE MODELING RESULTS

Mile Post			Wall Height to Meet Exterior 65 CNEL at 6 ft Above Grade**	Exterior CNEL at 16 ft. Above Grade with Soundwall			Wall Height to Strive to Meet Interior 45 CNEL **
	West	East	m	Nearest Residence	At 66 m	At 180 m	m
A	62840	62710	**4.0 (-0.7)**	65	62	55	**4.0 (-0.7)**
A'	62710	62580	**4.0 (-0.7)***	65	62	55	**4.4* (-0.3)**
B	62580	62550	**4.2 (-0.2)**	NA	NA	NA	4.4
C	62550	62390	**3.5 (-1.8)**	NA	NA	NA	**4.4 (-0.9)**
D	62390	62230	**3.5 (-2.7)**	NA	NA	NA	**4.0 (-2.2)**
E	62230	62070	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
F	62070	62010	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
G	62010	61760	**3.5 (-3.2)***	65	62	56	**4.0* (-2.7)**
H	61760	61580	**3.0 (-3.7)**	65	62	55	**3.0 (-3.7)**
	61580	61540					
I	61540	61190	**3.5 (-1.0)**	67	63	57	**4 (-0.5)**
J	61190	60960	**4.0 (-0.5)**	67	63	58	**5.5 (+1.0)**
K	60960	60580	6	67	63	59	**6.5 (+0.5)**
L	60580	60440	7	67	63	60	**8 (+1.0)**
M	60440	60220	6.5	66	62	59	6.5
N	60220	59980	5.5	66	63	59	5.5
O	59980	59920	4.8	67	63	58	**6 (+1.2)**
P	59920	59860	4.3	67	63	58	**4.5 (+0.2)**
Q	59860	59740	**3.8 (-0.4)**	66	63	58	**5 (+0.8)**
R	59740	59700	**3.5 (-0.6)**	68	64	59	**6 (+1.9)**

TABLE 3 (CONTINUED)
NOISE MODELING RESULTS

Mile Post			Wall Height to Meet Exterior 65 CNEL at 6 ft Above Grade**	Exterior CNEL at 16 ft. Above Grade with Soundwall			Wall Height to Strive to Meet Interior 45 CNEL **
	West	East	m	Nearest Residence	At 66 m	At 180 m	m
S	59700	59660	**3.5 (-0.5)**	65	63	58	4
T	59660	59560	4	67	63	58	**5 (+1.0)**
U	59560	59480	4.5	67	63	58	**6 (+1.5)**
V	59480	59370	6	67	63	58	**8 (+2.0)**
W	59370	59180	6	66	63	58	6
X	59180	59100	4.3	67	63	58	**5 (+0.7)**
Y	59100	58990	**3.5 (-0.8)**	67	64	57	**4.5 (+0.2)**
Z	58990	58950	**0.6 (-3.7)**	67	65	57	**1 (-3.3)**

* Height of wall needs to be higher at this location to protect adjacent mobile home units.
** Numbers in parentheses are the change in wall height from the proposed wall heights in reference 1.
NA--Not Applicable

CYL-4 Revised cost estimates for the alternative design components mentioned are $1.43-million for "Alternative 1", $1.63-million for "Alternative 2A", $1.8-million for Alternative 2B, $3.38-million for "Alternative 3A", and $3.63-million for "Alternative 3B". As stated in Section 3 Project Description, this project was created through specific fund designation in federal legislation with the express purpose of mitigating the increase in noise created by the BNSF Railroad expansion and project rail trip increases. Alternative design components discussed in Section 5.2.3 have been recognized as potentially providing aesthetic relief by substantially blocking views of the wall with aesthetically pleasing trees, shrubs, a vegetated berm, etc.. However, given the cost and lack of funding source for the provision of the alternative design components they must be considered infeasible at this time. Therefore, the City of Anaheim has committed itself in a mitigation measure to work with the City of Yorba Linda in acquiring funding to reduce the visual impact of the soundwall.

CYL-5 Subsequent studies performed as per Yorba Linda's suggestion have resulted in modification of design parameters including changes in wall height in many instances as a direct result of the additional noise study conducted (see Appendix 14). Additionally, the City of Anaheim will continue to work with the City of Yorba Linda to identify funds to address the aesthetic impact of the proposed wall.

LETTER RECEIVED FROM
THE CITY OF YORBA LINDA
(YL)

dated March 28, 2001

CITY OF YORBA LINDA

P. O. BOX 87014 CALIFORNIA 92686-8714

March 28, 2001

RECEIVED
MAR 2 8 2001
PUBLIC WORKS DEPARTMENT

Mr. Eric Wiebke
Public Works Department
City of Anaheim
P.O. Box 3222
200 South Anaheim Boulevard
Anaheim, CA 92805

Re: Comments pertaining to the review of the draft EIR for the Burlington Northern/Santa Fe Railroad Corridor Soundwall Project

Dear Mr. Wiebke:

The City is in receipt of the above-referenced draft EIR, received by special delivery in our office on February 13, 2001.

As indicated in the draft EIR, the Burlington Northern/Santa Fe (BNSF) Railroad Corridor Soundwall Project ("the Project") involves the construction of a soundwall of sound absorptive acoustic panels between I-beam posts. Proposed wall length is approximately 12,900 feet along the rail corridor extending from Imperial Highway (SR-90) on the west to Yorba Linda Boulevard/Weir Canyon Road on the east. The proposed wall will vary in height from 13 to 23 feet above rail elevation, and is to be constructed entirely within the railroad right-of-way.

The city boundary between the cities of Yorba Linda and Anaheim is the southerly boundary of the BNSF railroad right-of-way. As the project, by Anaheim's own assertion, is completely within the railroad right-or-way, the consequence is that the soundwall will be located entirely within the jurisdiction of the City of Yorba Linda. Thus, in accordance with its police power regulatory responsibilities, the City of Yorba Linda will be the permitting agency for this project, responsible for all entitlement, plan checking, permit issuance and inspection services for the soundwall. As such, pursuant to Section 15381 Title 14 California Code of Regulations (a.k.a., *CEQA Guidelines*), the City of Yorba Linda as a public agency other than the Lead Agency with discretionary approval power over the project will be a *Responsible Agency* for the project.

The following comments constitute the response of the City of Yorba Linda pertaining to the Notice of Completion issued by the City of Anaheim for the Burlington Northern/Santa Fe Railroad Corridor Soundwall Project Draft EIR. These comments are being provided in accordance with Section 15096 of *CEQA Guidelines*.

Comments regarding to the contents of the draft EIR for the Burlington Northern/Santa Fe Railroad Corridor Soundwall Project are as follows:

Section 1: Executive Summary

1.1: Introduction

- Reference needs to be made that the project is completely within the City of Yorba Linda. YL -1

1.2: Project Impacts and Mitigation Program

- As indicated, the project location is within the corporate boundaries of the City of Yorba Linda, and is therefore, subject to all of Yorba Linda's planning and zoning regulations, as well as all other applicable City policies, rules, regulations, specifications, etc.

  The City's General Plan, per the *Open Space and Conservation Areas Map* (Exh. RR-3), recognizes the Esperanza corridor as a scenic corridor/public open space area as a consequence of the roadway functioning as a major gateway entrance into the City and also because a significant component of the City's trail network parallels the roadway. The following General Plan Goals and Policies are applicable to designated scenic corridors: YL -2

  - Goal 3: *Compatible relationships between land uses provided in the community.*
  - Policy 3.1: *Consider and mitigate the impacts on surrounding land uses and infrastructure when reviewing proposals for new development.*
  - Policy 3.2: *Control the development of industrial and other uses...; requiring adequate mitigation measures to be incorporated into design and operation.*
  - Policy 3.4: *Provide land use compatibility through appropriate community design and development policies.*
  - Goal 4: *High quality urban design that unites the City into a comprehensive entity... and contributes to City pride and identity.*
  - Policy 4.1: *Require that all structures be constructed in accordance with the City's building and other pertinent codes and regulations...*
  - Policy 4.2: *Ensure high quality community design image through the City design review process.*

- Policy 4.3: *Implement the comprehensive landscape program for major arterials, intersections and City entry points as established in the City's Landscape Design Manual.*

- Policy 5.8: *Locate trails along scenic corridors wherever environmentally, physically, and economically feasible.*

- Goal 6: *Permanently preserve visual resources along existing and planned landscape corridors.*

YL -2 cont.

The City's Zoning Code (Title 18 of the Municipal Code) establishes regulations and standards that restricts the maximum height of all structures to thirty-five (35) feet (unless otherwise specifically approved), and the maximum height of all fences and walls to six (6) feet, except that a wall height may be increased up to an additional twenty (20) percent of the standard with the granting of a conditional use permit. Though wall heights are not indicated in the draft EIR, it is my understanding that the maximum height of the wall is over forty (40) feet. As the City's zoning regulations do not permit structures over 35 feet and walls over 6 feet, the proposed soundwall could not be built in the City of Yorba Linda, unless:

- A finding of similar use is made by the Planning Commission, in accordance with Section 18.64.010 *et seq* of the Zoning Code, that a soundwall in excess of 35 feet high is permitted under the zoning regulations; and,

- A variance is granted by the Planning Commission, in accordance with Section 18.64.310 *et seq* of the Zoning Code, permitting the construction of a wall in excess of 6 feet high.

The project as presently proposed is not consistent with the City's General Plan, nor in accordance with existing zoning regulation. As designed, the City could not issue building permits for the soundwall due to these incompatibilities with City land use and zoning specifications. As a consequence, *Land Use and Planning* should be added to the list of topics for which potentially significant impacts have been identified.

YL -3

- Noise impact on the north side of the railroad tracks from sound reflection off the proposed soundwall needs to be identified as a potential significant impact. As the area is already impacted by transportation noise, future noise exposure will be approximately 74 dBA for residences adjacent to Esperanza Road, almost any increase in noise exposure would constitute an impact. Therefore even a slight increase of noise levels on the north side of Esperanza from reflective noise could be a potential impact because the ambient condition is already impacted. The draft EIR should clearly state reflective noise as a potential impact, with appropriate mitigation measures considered. One mitigation measure would be to provide a

YL - 4

landscaped berm with a sound/aesthetic wall on top along the north side of the railroad tracks.

Table 1-1:

Noise

- As the project is within the City of Yorba Linda, hours of project construction activities shall comply with the requirements of the Yorba Linda Municipal Code prohibiting construction activities between the hours of 8 pm and 7 am, Monday through Saturday, and all day on Sundays or a federal holiday (*§15.48.010 Yorba Linda Municipal Code*)(1.1).
- Maintenance and support area shall be per the approval of the City of Yorba Linda City Engineer (1.2).
- This specification for quieter equipment shall be mandatory per City of Yorba Linda requirements (1.4).
- The reflective noise issue on the north side of the tracks needs to be added to this table.

YL -5

Aesthetics

- Specifications to lessen Impact 4.2-1 to levels less than significant must be included in the draft EIR for the document to be complete and adequate.
- As access to the soundwall for maintenance, graffiti clean-up, repair and service will be off of Esperanza Road in Yorba Linda, an encroachment permit will be required from the City of Yorba Linda.

YL -6

Hydrology and Water Quality

- Mitigation efforts in regards to hydrology and water quality issues shall be subject to the review and approval of the Yorba Linda City Engineer through his police power authority.

YL -7

Section 2: Introduction

2.1: Purpose of the Draft EIR

- The City of Anaheim is the project proponent intending to build the wall, however all project approvals to build the wall remain with the City of Yorba Linda as the wall is entirely within the boundaries of Yorba Linda. Therefore, reference shall be made that the City of Yorba Linda, as the Responsible Agency for land use entitlement and

YL -8

building permit issuance, may use this EIR in its decision to grant any discretionary entitlement permits for wall construction, or may, at its discretion, require an additional level of environmental review if the City of Yorba Linda, using its Responsible Agency authority, finds this EIR to be incomplete and/or inadequate.

YL -8 cont

2.3: Project Approval Actions

- The City of Yorba Linda shall be listed as a Responsible Agency whose actions will include all land use entitlements and building permit issuance and inspection activities. At minimum, project entitlement will involve a zoning similarity determination and the granting of a variance. Since these actions are discretionary, they will be subject to CEQA review by the City of Yorba Linda.

2.4: EIR Focus and Effects Found Not to be Significant

- The issues raised by the City of Yorba Linda in their response letter, dated May 17, 2000, to the Notice of Preparation to the draft EIR have been excluded from the discussion in the *Scoping Process* in the draft EIR, and should be included rather than ignored.

- *Land Use and Planning* **is not** an environmental topic with impacts less than significant as currently stated in the draft EIR. As previously indicated, the wall height of the soundwall is in violation of the maximum wall height standard of six feet per the Yorba Linda Zoning Code. As proposed, the wall could only be approved contingent upon the granting of a variance by the City of Yorba Linda. Granting of the variance would necessitate the mitigation of any impacts associated with construction and establishment of the wall. Also the project is not in accordance with the Yorba Linda General Plan as the identified significant aesthetic impacts are inconsistent with the General Plan's recognition of the Esperanza Road corridor as an important scenic corridor, both as a major gateway into the City and because a significant component of the City's trail system parallels the Esperanza roadway.

YL -9

Section 3: Project Description

3.1: Project Location

- The project location needs to be identified as within the City of Yorba Linda. The *Project Location Map* (Exhibit 3-2) needs to be revised to show the wall location in Yorba Linda, not Anaheim.

YL -10

3.2: Site Characteristics

- Reference to commercial locations needs to be reoriented to ..."just east of *Imperial Highway* on the north side of *Esperanza Road*."

3.3: Primary Project Components

- Wall location should be correctly identified as completely within the City of Yorba Linda.
- To provide complete information and full disclosure, a complete project description needs to be provided. This would include information on the wall's height, both above grade/ground level and above rail elevation, via a wall profile for its entire length. Additionally, wall details and sections should be included to clearly demonstrate what the wall will look like and how it will be built.

YL -10 cont

3.4: Project Objectives

- As Yorba Linda is the Responsible Agency for project entitlement and approval, Yorba Linda objectives also need to be included in this section. These objectives would include that the soundwall: 1) be consistent with Yorba Linda's General Plan and Zoning requirements; 2) that wall design and construction conform with all applicable City of Yorba Linda code, regulations, specifications, policies, etc.; 3) that there be no additional contribution to noise levels from the ambient condition as a result of reflected sound, as the neighborhood north of Esperanza is an already impacted area with ambient noise levels already in excess of the maximum thresholds; 4) that there be no significant aesthetic impacts to Yorba Linda as a result of the project.

YL -11

Comments on Sections 1-3

The draft EIR does not clearly identify and distinguish the unquestioned ministerial and discretionary responsibilities of the City of Yorba Linda with regards to this project. Consequently, the draft EIR should be revised to include detailed analysis that pertains directly to the City of Yorba Linda, with narrative discussing how the proposed project relates to the physical and governmental aspects of the City of Yorba Linda.

Section 4: Existing Condition, Environmental Impacts, Mitigation Program, and Level of Significance After Mitigation

4.1: Noise

Proposed wall heights for the soundwall (i.e., 13-23 feet above the rail elevation) are based upon the *BNSF Rail Corridor Soundwall Noise Report* (September 2000, revised January 2001) prepared by Acentech. This report is flawed in that it is not complete, adequate nor credible.

YL -12

The September, 2000, study identified two criteria for establishing soundwall height: 1) noise levels in the rear yards of homes be reduced to 65 CNEL; 2) the noise barrier breaks the line of sight from the noise source to the eave of building. The revised

January, 2001, report references the criteria used as 65 CNEL in exterior areas, and 45 CNEL in any habitable room with the windows closed. In applying this interior standard, the January, 2001, report states, "To strive to limit interior noise of a maximum of CNEL 45 in habitable rooms, a minimum wall height that breaks the line of sight between the top of the train and the top of the exterior surface of all habitable structures within 600 feet south of the tracks was used."

This is another way of saying that the eave height standard used in the September study was also used in the revised January study. Nothing was changed in the revised study; new calculations were not performed, no noise levels at the second floor were presented, and the soundwall heights were not changed.

There is a significant inconsistency between the stated criteria and the design methodology that has a profound impact on soundwall heights. On page 7 of the September report, reference is made to the City of Anaheim City Council policy for sound attenuation in residential areas. The policy states that in single-family residential developments, the maximum allowable exterior noise levels should be 65 CNEL as measured at any point six (6) feet above ground level within the development. However, in design methodology, the criteria for measuring the 65 CNEL was not at a point 6-feet above the ground, but at the eave height of the home. The justification was to impose a line of sight barrier at the eave line to assist in the maintenance of the interior standard of 45 CNEL. YL -12 cont.

The City of Yorba Linda is not aware of any other jurisdiction using a top of eave criteria for sound attenuation, and its effect is profound. To demonstrate, Yorba Linda conducted its own independent sound evaluation by an independent acoustical engineer consultant. The comparison looked at Area D from the Acentech study. The top of eave method to achieve 65 CNEL resulted in a wall height of 20.3 feet. When the six feet above ground to determine the 65 CNEL threshold is used, a wall height of only 11 feet is needed. In other words, the top nine feet of the wall is only there to meet the top of eave criteria. Based on this, the soundwall is much higher than it needs to be to meet the CNEL criteria. The City of Yorba Linda study is included herein.

In the typical noise attenuation design, the height of soundwalls is not driven by second floor indoor noise levels. The standard practice is to construct a soundwall to reduce the first floor yard area down to 65 CNEL. This also ensures that first floor indoor noise levels are less than 45 CNEL with windows closed. Second floor indoor noise levels are then reduced to below 45 CNEL, if necessary, with window upgrades. Because it is cheaper to replace windows than to build higher walls, most city zoning regulations usually do not allow for walls higher than 6-8 feet.

The City of Anaheim has indicated that the eave requirement is designed to protect the second floor from noise. However, no noise projections are made for the second floor, and several questions are left unanswered.

The following information needs to be included in the draft EIR:

1. What height soundwall is needed to achieve only the 65 CNEL standard consistent with the Anaheim City Council policy as measured at six feet above the ground level? This would be the Lower Sound Wall Alternative.

2. What are the second floor noise levels outdoor and indoor with the proposed soundwall?

3. What are the second floor noise levels outdoor and indoor with the Lower Soundwall Alternative?

4. Provide a real cost analysis for the Lower Soundwall Alternative including building upgrades to reduce the second floor indoor noise levels to 45 CNEL. (The generic and inflated cost values contained in the *BNSF Rail Corridor Home Sound Insulation* are not credible).

YL -12 cont

Specific comments regarding the noise analysis section are as follows:

1. The Project Description is not adequate because the project is not clearly defined. The Project Description does not provide any information on the soundwall heights. The specific soundwall heights all along the project need to be identified. As existing, the only place in the draft EIR that contains any information on soundwall heights is in the Acentech report in Appendix 2. Are these the soundwall heights that constitute the proposed project, or are the wall heights as shown in the ASL Engineering drawings the proposed project? This is a significant issue as these two identified wall heights do not agree with each other.

YL -13

2. The Thresholds for Significance for Noise in the draft EIR (p. 4-2) do not agree with the criteria identified in the Acentech report (revised January 2001). The Acentech report provides the Federal Transit Administration (FTA) as one of the noise impact criteria. For example, the FTA indicates that impacts can occur when the cumulative noise is increased from 65 to 66.5 CNEL, or when the cumulative noise is increased from 75 to 75.5 CNEL. When the existing noise level is high, small increases in the cumulative noise can have a significant impact according to the FTA criteria presented in the Acentech report.

YL -14

3. The text of the draft EIR (p. 4-4) does not properly summarize the Acentech report in regards to the potential noise impact on the north side of the railroad tracks. The draft EIR quotes the Acentech report up to a point, then conveniently stops and does not include that portion of the report that states: *However, because the area is already impacted by transportation noise, future noise exposure will be approximately 74 dBA for residences adjacent to Esperanza Road, almost any increase in noise exposure would constitute an impact* (emphasis added). Therefore, according to the Acentech report, even a slight increase of noise levels on the north side of Esperanza from reflective noise could be a potential impact because the ambient condition is already impacted. The draft EIR should clearly

YL -15

state reflective noise as a potential impact, with appropriate mitigation measures considered. One mitigation measure would be to provide a landscaped berm with a sound/aesthetic wall on top along the north side of the railroad tracks. YL -15 cont.

4. The construction noise analysis is generic. The analysis, as presented, could be applied to almost any project. What will be the noise levels for the typical locations in Anaheim along the soundwall construction area? What will be the noise levels for typical locations for homes across Esperanza Road in the City of Yorba Linda? The Acentech report (p. 27) recommends using portable noise screens for construction noise mitigation. Why was this mitigation measure not included in the draft EIR? YL -16

5. Proposed mitigation measures (p. 4-5) must be modified to accommodate the City of Yorba Linda's involvement with mandating construction work hours and its regulatory ordinances in this regard. YL -17

6. Section 8 (p. 25/26) of the *SNSF Rail Corridor Soundwall Noise Study Report* discusses noise "leaks" and indicates that openings through or under the soundwall in excess of 0.1% of the panel surface area would jeopardize the sound transmission loss performance. Yet soundwall design allows for a 3" gap at the bottom of the wall. This 3" gap provides an opening under the panel structure in excess of this 0.1% threshold. How will this gap affect the soundwall performance? This issue is neither mentioned nor discussed. YL -18

4.2: Aesthetics

The City of Yorba Linda General Plan identifies the Esperanza Road corridor as a significant scenic resource as the roadway is a major gateway entrance into Yorba Linda, and also because a major component element of the City's trail system network parallels the roadway. Therefore, any adverse change to the visual environment that would degrade the existing visual character or quality would be considered a significant impact. This performance standard is prescribed as a threshold of significance for determining adverse impact (p. 4-7). YL -19

The impact analysis (p. 4-7) of the draft EIR uses the criteria of the proposed soundwall blocking or partially blocking existing viewsheds to the south for the first row of properties along the north side of Esperanza Road for determining significant impact. The draft EIR concludes that 68 of the 113 properties that constitute this identified first row on the north side of Esperanza Road would have existing viewsheds partially blocked with soundwall construction. The remaining properties would experience no impact due to the fact that existing property walls already impede views to the south.

This criteria used to determine impact is inconsistent with the identified thresholds of significance. In the draft EIR impact is only assessed with relationship to the blockage of existing viewsheds for the first row of properties. No analysis is provided as to how the visual nature of the Esperanza corridor will be changed by soundwall construction, contrary to the draft EIR's own stated threshold for determining significance. Also, no

analysis and assessment is provided for the properties north of the first row even though many of the properties have direct views of the corridor due to elevation changes. Finally, no mention, discussion, nor analysis is provided relative to the project's impacts regarding the scenic corridor nature of Esperanza Road as identified in the Yorba Linda General Plan. This section is incomplete and inadequate. YL -19 con

Specific comments regarding the aesthetics analysis section are as follows:

1. No simulated views of the proposed soundwall are provided from either the Anaheim or Yorba Linda side. Residents on both sides of the soundwall should see how this wall will look. For instance, the draft EIR identifies the wall as 13-23 feet above the rail elevation. However, what the draft EIR does not indicate is that the tracks are on a raised bed of varying heights above the elevations of the homes, but that the footings and base of the wall will be at the bottom of the slope of the raised rail bed. Thus, the full height of the wall from the base to the top facing the homes to the south in many instances will be significantly higher than the 13-23 feet described in the draft EIR. Do residents on the Anaheim side realize that with elevation changes, they could be looking at a 30-40 foot high wall in their backyards? YL -20

2. The Bonterra exhibits (4.2-2) are incomplete as they do not show homes north of the tracks. The property line shown on the cross-section is also the City of Yorba Linda/City of Anaheim boundary line. YL -21

3. An EIR must propose and describe mitigation measures to minimize the significant environmental effects identified in the EIR. A mitigation measure must be designed to minimize, reduce or avoid an identified environmental impact, or to rectify or compensate for that impact. A mitigation measure would be deemed inadequate if it is so undefined that it would be impossible to evaluate its effectiveness.

   The draft EIR identifies Impact 4.2-1(p. 4-8), which states: *The construction of the soundwall will create a significant visual change to the residents north of Esperanza Road with views of the Burlington Northern/Santa Fe Railroad corridor.* Mitigation Measure (*MM 2-2, p. 4-8*) is proposed as: *The City of Anaheim shall work cooperatively with the City of Yorba Linda in an effort to identify and secure funding to provide for visual screening in order to reduce the visual impact of the soundwall.* YL -22

   The mitigation measure as proposed does not satisfy the standard for adequacy as its content is so undefined that it is impossible to evaluate its effectiveness in minimizing the significant visual impact of the soundwall identified in the draft EIR. The draft EIR also recognizes the inadequacy of this mitigation measure by its own confession that aesthetics remains a significant impact.

   Section 15021 of *CEQA Guidelines* establishes that it is the duty of the public agency to avoid or minimize environmental damage. The only two justifications for not mitigating identified significant impacts are that no feasible mitigation measures or project alternatives exist, or that in balancing a variety of public objectives, the

benefits derived from project implementation outweigh the burdens of the negative impacts incurred, in which case the public agency adopts a statement of overriding considerations. The statement must be supported by substantial evidence in the record.

Neither circumstance is applicable in this situation to avoid the need to minimize the impact. *Feasible* is defined in Section 15364 of *CEQA Guidelines* as "capable of being accomplished in a successful manner in a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." The City of Yorba Linda has promulgated a feasible mitigation measure to provide a combination of landscaping, berm and wall along the north side of the BNSF railroad tracks within the Esperanza Road right-of-way in the City of Yorba Linda. This would be an effective mitigation measure in that it would both visually screen the soundwall, but also prevent any reflective noise from the soundwall being imposed upon the homes on the north side of Esperanza Road in Yorba Linda (see discussion in *4.1: Noise* above for discussion of reflective noise issue). At a projected cost of $3 million for mitigation measure implementation in comparison to the $12 million budget, the mitigation measure does not represent an unreasonable or infeasible portion of the project budget from an economic sense. This is an impact that should have been reasonably anticipated in project analysis and included as part of the project design. Anaheim's assertion of lack of project budget to cover the cost of implementation is not justified, and is a poor excuse for inadequate foresight, planning and design of the project. Not screening the visual impacts of the soundwall is contrary to the fundamentals of CEQA that requires a project to mitigate the negative impacts that implementation of the project creates. It would be akin to building a sports stadium, but then dumping parking on neighboring streets and/or properties because initial project design did not anticipate the need for parking, and, therefore, was not included in the project budget. As a parking lot is integral to a sports stadium, the screening of the block wall is integral to the soundwall project design. Without it, the project is not complete, and should not move forward. Anaheim should either look for other funding sources, or consider less costly project alternatives (i.e., Lower Soundwall Alternative) that would free up funding sources for the purpose of mitigation implementation. YL -22 cont

Additionally, the claim of unavoidable environmental impacts allowable with adoption of a statement of overriding circumstances asserting the existence of compelling public benefit to justify the imposition of unavoidable adverse impact is not supported by any evidence in the record. As a Responsible Agency, Yorba Linda would invoke its authority pursuant to Sections 15041 and 15042 of *CEQA Guidelines* to overturn any attempt to approve and certify this EIR that did not include appropriate mitigation for significant visual impacts.

4.3: Hydrology and Water Quality

Under the heading "Regional Setting," the project should be identified as being completely within the City of Yorba Linda. YL -23

Mitigation Measure MM 3-1 shall be modified to acknowledge hydrology, water quality and grading issues will all be subject to the review and approval of the Yorba Linda City Engineer. YL -23 cont.

4.5: Air Quality

Under the heading "Existing Condition," as the project location is in Yorba Linda, not Anaheim, reference should be to the City of Yorba Linda being in the South Coast Air Basin, as the location of Anaheim is irrelevant for the purposes of this EIR. YL -24

4.6: Hazardous Materials

Under the heading "Onsite and Surrounding Uses," the directions have been mixed up. The text should read, "with some commercial just east of Imperial Highway on the north side of Esperanza Road. YL -25

Section 5: Alternatives

The draft EIR demonstrates blatant disregard for the requirements of CEQA in accordance with Section 15126.6 of the *CEQA Guidelines*.. Per paragraph (f) of said section, CEQA mandates the "rule of reason," whereby the range of alternatives considered in the EIR need only be those alternatives that would avoid or substantially lessen any of the significant effects of the project, while at the same time would also allow most of the basic objectives of the project to be feasibly obtained. YL -26

As demonstrated earlier, the City of Yorba Linda is a Responsible Agency for this project. In this capacity, the City of Yorba Linda's has consulted and conferred with the City of Anaheim regarding two alternatives, or combination of the two thereof, that would substantially lessen the significant impacts of aesthetics and rebound noise on the north side of Esperanza. Additionally, the basic objective of providing sound attenuation for those residences on the south side of the BNSF railroad corridor that meet the City of Anaheim's criteria for noise exposure would not be compromised.

The first is the "Lower Wall Alternative" previously described in this letter. The City of Anaheim noise criteria standard, as stated in the draft EIR, is a maximum exterior noise level of 65 CNEL as measured at a point six feet above the ground. However, in application, the exterior standard of 65 CNEL is being measured at the house eave. This is a super standard that is a much more demanding standard not required by the City of Anaheim; but its imposition has resulted in the requirement for a much higher wall than if the six-foot high standard were being used. For example, in Area D of the Acentech study, the proposed wall height is 20.3 feet using the top of eave criteria. However, if the six-foot standard is used, the wall height obtains the 65 CNEL criteria at 11 feet. If this six-foot criteria were extrapolated over the entire length of the wall (2.44 miles), the change of project design would be dramatic. The significantly lowered wall would drastically reduce the level of visual impact of the project over the proposed

design, and would lower construction costs to make more funds available to implement the landscape/wall screen on the north of the railroad right-of-way as is being required by the City of Yorba Linda per its authority as a Responsible Agency. Moreover, this lower wall alternative would still satisfy project objectives as the wall would be designed consistent with the City of Anaheim noise standards. In fact, the proposed wall is over designed using a design standard (exterior noise levels measured at the eave line) that is not typically used, and Is not the accepted design criteria for the City of Anaheim. Also, the draft EIR does not justify why this super standard is being used or is necessary. The rule of reason imposed for alternative selection would certainly deem this Lower Wall Alternative as a viable alternative candidate. Even so, the draft EIR chose not to consider this alternative for analysis.

The other aspect of concern is in regards to the City of Yorba Linda's demand for a combination landscape berm with wall north of the BNSF railroad corridor within the City of Yorba Linda to: 1) visually screen the adverse effects of the massive wall on community aesthetics; 2) reduce to zero any rebound noise from the new soundwall upon the residential properties along the north side of Esperanza Road as the ambient noise levels are already in excess of the allowable maximums, and any additional noise added to the already impacted area would be a potential significant adverse impact. YL -26 cont

The City of Yorba Linda has found the significant impacts to visual resources and the potential impact from rebound noise on the homes on the north side of Esperanza that directly result from project implementation, for which Yorba Linda has approval authority, to be unacceptable. In the City of Yorba Linda's capacity as Responsible Agency, Anaheim has been advised of this. Anaheim's response has been to consider these mitigations as varying project alternatives considered in Section 5 of the draft EIR as the "Yorba Linda Parkway Study (South Side of Esperanza Road). Five options are considered (Nos. 1, 2A, 2B, 3A and 3B). Alternative 3B, inclusive of a landscaped berm with decorative sound attenuating wall on top within the City of Yorba Linda right-of-way and outside of the BNSF right-of-way, satisfies Yorba Linda's concerns by mitigating the impacts of aesthetics and reflective noise. At the same time, this alternative satisfies the project objective of noise attenuation. Yorba Linda finds Alternative 3B to be environmentally superior. Additionally, this alternative satisfies the project objectives and is feasible. Per CEQA requirements, the proposed project should be rejected, and Alternative B accepted. However, the City of Anaheim has rejected Alternative 3B as infeasible because the work would be outside the city limits of Anaheim, and also because there is no project funding available.

These arguments defy logic and have no substantiation based upon credible evidence. The soundwall is not within the City of Anaheim, but is within Yorba Linda's jurisdiction. Why can Anaheim build the sound wall in Yorba Linda, but find the screen landscaping and walls are not feasible because they would be located in Yorba Linda outside of Anaheim's jurisdiction? This sounds like attempting to burn the candle at both ends. As for the funding issue, that has been previously discussed. In short, Anaheim's obligation per the purpose and intent of CEQA is to mitigate any adverse impacts that would result from project implementation. Anaheim's lack of foresight in anticipating the

need for project mitigation now that funding for the project has been secured is not adequate justification for trying to bypass the obligation to mitigate the adverse effects of the project. Instead of incorporating mitigation into project design as has been requested by Yorba Linda, Anaheim is instead assessing mitigation as a project alternative and alleging infeasibility due to lack of jurisdiction and of funding. On its face, this is completely contrary to the requirements of CEQA, and renders this EIR as invalid. YL -26 cont.

This completes our comments on the contents of the draft EIR for the Burlington Northern /Santa Fe Railroad Corridor Soundwall Project.

Conclusions

This draft document is contrary to the mandates of CEQA and is totally inadequate as an EIR. To highlight a few of the previously identified inadequacies:

- The document demonstrates lack of full disclosure (e.g., the project is not identified as being within the City of Yorba Linda, Yorba Linda is not identified as a Responsible Agency, a full and complete description of the project is not provided); YL -27
- The document is not accurate (e.g., impacts to *Land Use and Planning* and from reflective noise upon homes to the north) are not identified and discussed); YL -28
- The document is not consistent (i.e., there is a discrepancy between wall heights described in the EIR and as shown on engineering plans, there is discrepancy between the design standards for noise thresholds [exterior noise measured at 6 feet above ground] and methodology used [design standards measured at the building eave], there is discrepancy between design specifications [0.1% maximum opening of surface] and design plan [a 3 inch gap at the bottom of wall, in excess of this 0.1% standard; to accommodate area drainage] that is not identified and discussed); YL -29
- The document is not in compliance with CEQA mandates (e.g., significant impacts have been identified but not mitigated; the "rule of reason'" has not been used in a complete and accurate assessment of reasonable project alternatives); YL -30
- The City of Anaheim has not demonstrated a good faith effort by their insistent refusal to recognize Yorba Linda as a Responsible Agency, and by their refusal to respond to and implement Yorba Linda recommendations in a complete and adequate manner;
- This document is not in compliance with CEQA mandates (e.g., significant impacts have been identified with no effective mitigation proposed, arguments have been offered with substantiation by evidence in the record). YL -31

In conclusion, the City of Yorba Linda finds this draft EIR to be inadequate and incomplete rendering it invalid and legally indefensible.

The City of Yorba Linda is the Responsible Agency for this project as the public agency with the jurisdictional authority for land use entitlement, permit issuance, and construction oversight through inspection services. As the Responsible Agency with the authority to issue permits for the soundwall entitlement and construction, the City of Yorba Linda has authority and responsibility for mitigating or avoiding the direct or indirect environmental effects of those parts of the project for which it has approval authority (reference *CEQA Guidelines* Sections 15041, 15042 and 15096). Thus, the City of Yorba Linda has both the responsibility and the authority to mitigate any impacts that result from their permitting approval of the soundwall. Additionally, the entitlement process will necessitate the need for a zoning similarity determination and the granting of one or more variances by the Yorba Linda Planning Commission. Both actions are discretionary approvals requiring environmental assessment per CEQA mandates. As mentioned in Yorba Linda's comments in response to the Notice of Preparation, as Yorba Linda is the permitting agency for this project, Yorba Linda will need to co-certify this draft EIR as complete and adequate in order to use it for environmental evaluation of the discretionary approvals Yorba Linda will be mandated to undertake as Responsible Agency for the project. YL -32

In accordance with Section 15096(d) of *CEQA Guidelines*, Yorba Linda has commented on this draft EIR. These comments have focused on the shortcomings in the draft EIR, and have indicated alternatives and mitigation measures which the EIR should include. These comments have been limited to those project activities which are under the purview of authority of Yorba Linda as the Responsible Agency for project permitting. Our comments have been as specific as possible, and our positions are justified with documentation of credible evidence.

The City of Yorba Linda has indicated its position that this draft EIR is both inadequate and incomplete. If this draft EIR is certified by the City of Anaheim without adequate reconciliation of Yorba Linda's concerns, then Yorba Linda would be placed in a position of being asked to make discretionary approvals for a project for which adequate environmental assessment has not been completed. Under these circumstances, Yorba Linda would find it necessary to invoke its authority as Responsible Agency as provided for in Sections 15041, 15042, and 15096 of *CEQA Guidelines*. In essence four options would be available to Yorba Linda: YL -33

1. Take the issue to court within 30 days after the lead agency files the Notice of Determination;

2. Have a subsequent EIR prepared (at the project proponent's expense);

3. Assume the lead agency role;

4. Deny the project.

If placed in such a position, the City of Yorba Linda would have to consider all four available alternatives.

The City of Yorba Linda is extremely disappointed in the direction and tone of this draft EIR. What is of greatest concern is Anaheim's persistent pattern of operating in an uncooperative manner, of not responding to Yorba Linda's comments, and of the failure to properly recognize Yorba Linda as a Responsible Agency in spite of the irrefutable claim by Yorba Linda as such. Yorba Linda has no desire to prevent Anaheim from taking positive action to improve the quality of life for its residents; we applaud and support those efforts. Those actions, however, must be administered in a cooperative and neighborly pattern in which the positive actions to improve one group is not done at the expense and to the detriment of others. Unfortunately, Anaheim's actions to date do not measure up to these standards, and has forced Yorba Linda, at this time, to take an adversarial position, especially if Anaheim persists in moving forward with the project as presently proposed. YL -33 con

As of now, Anaheim's position has placed the ability of this project to move forward in serious jeopardy. Yorba Linda, for its part, has not closed the door to reconciliation. If our position is recognized and satisfied, we see no reason why this project cannot once again move forward in a satisfactory manner for all parties. We look forward to your response.

Sincerely,

Bruce M. Cook
Senior Planner

cc: Terence Belanger
Patricia Haley
Jim Smith
Len Hampel
Todd Litfin
Christopher Johansen
Yorba Linda City Council

Response to Comments from the City of Yorba Linda dated March 28, 2001

YL-1: The proposed project is not completely within the City of Yorba Linda but is within BNSF Right-of-Way through both the City of Yorba Linda (approximately 75%) and unincorporated County or Orange (approximately 25%). Additionally, the proposed project is located entirely within the southern extent of the Burlington Northern/Santa Fe Railroad corridor.

YL-2: The City of Anaheim acknowledges that the project is located in the City of Yorba Linda and certain unincorporated portions of the County of Orange, all within the BNSF railroad right-of-way. The project itself is a mitigation measure, consistent with the railroad's use, intended to address its noise impacts.

The City of Anaheim further acknowledges that the project is subject to the requirements of CEQA and that it is required to obtain a determination of conformance of the project with the City of Yorba Linda's general plan. However, Anaheim is not bound by Yorba Linda's determination of conformance with its general plan.

Cities and counties are not bound by each other's general plans, or by each other's zoning and building regulations. (*Lawler v. City of Redding*, 9 Cal. Rptr. 2d 392, 395-396) The Legislature addressed the issue of intergovernmental immunity in the Government Code, commencing with Section 53090. Section 53090 does not include cities and counties in its definition of "local agencies". Section 53091 requires that local agencies (not including cities and counties) comply with cities' and counties' zoning and building regulations. The California Attorney General held that the exemption of cities and counties from each other's building and zoning ordinances is implicit in Section 53090, since it excludes cities and counties from the definition of "local agencies". (40 Ops. Cal. Atty. Gen. 243, 245-247 [1962]) The *Lawler* case acknowledged this as follows:

> "After considering the legislative history of sections 53090 through 53095, the Attorney General concluded the Legislature intended to 'cover the whole field of intergovernmental regulation with respect to building and zoning ordinances' and to 'set at rest the broad problem [of] the ability of a city or county to enforce its building and zoning ordinances against any other local governmental unit acting within its boundaries. (*Lawler v. City of Redding*, at p. 395, citing 40 Ops. Cal.Atty.Gen. 243)

Consequently, the City of Yorba Linda has no discretionary approval power over the project, and is not a responsible agency under CEQA (CEQA Guidelines, §15381). However, the project will fully comply with CEQA and will continue to work cooperatively with the City of Yorba Linda to address impacts of the project.

YL-3: See response to comment YL-2. The City of Anaheim will request a determination of conformance of the project with the City of Yorba Linda's general plan. However, the project is not bound by the City of Yorba Linda general plan or zoning and building regulations.

YL-4: Potential soundwall related reflective noise impacts on City of Yorba Linda residences would be mitigated by project design which incorporates the use of absorbent materials on the north face of the wall. With the use of these sound absorbing materials there would be a 0.7 dBA increase in existing noise levels for residents to the north of

Esperanza Road. Noise level changes of less than 1 dB CNEL are not considered perceptible to the human ear. Therefore, in accordance with criteria designed by the Federal Railroad Administration (FRA) and Federal Transit Administration (FTA), the project would not result in an impact or result in a discernible noise increase for residents north of Esperanza Road. Additionally, the sound absorbing wall could result in a reduction in noise which is currently reflected by existing non-absorbing masonry walls on the south side of the BNSF right-of-way.

YL-5: Project construction would be required to comply with the City of Anaheim noise code regarding construction noise which would also comply with City of Yorba Linda code. Revisions to Mitigation Measure 1-1 are included in the Final EIR. Mitigation Measure 1-1 is hereby revised as follows:

> "Construction activities shall not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or at any time on Sunday or a Federal Holiday."

See response to comment YL-4 regarding comment on reflective noise.

YL-6: Impacts to views of the Burlington Northern/Santa Fe Railroad from homes to the north of Esperanza Road have been recognized as significant and unavoidable impacts of project implementation. CEQA does not require that all impacts be lessened to less than significant levels. Mitigation was provided in an attempt to reduce impacts to the extent feasible. The proposed project would be accessed for maintenance, graffiti clean-up, repair and service via BNSF right-of-way at it's intersection with Imperial Highway in the City of Anaheim. No encroachment permit would be required from the City of Yorba Linda.

YL-7: See response to comment YL-2. The City of Yorba Linda has no discretionary approval power over the project. The requirements set forth in Mitigation Measure 3-1 are subject to the approval of the Santa Ana Regional Water Quality Control Board (RWQCB).

YL-8: See response to comment YL-2. The City of Yorba Linda has no discretionary approval power over the project and is not a responsible agency under CEQA (CEQA Guidelines §15381). However, the City of Anaheim will continue to work cooperatively with the City of Yorba Linda to address impacts of the project.

YL-9: NOP comments are recognized as used to establish the scope of the issues addressed in the EIR. Although the letter is not mentioned specifically, applicable issues raised in the letter are discussed as potential impacts associated with implementation of the project. Furthermore, the letter has been addressed appropriately in this Response to Comments.

See response to comment YL-2. The project is not bound by the City of Yorba Linda general plan or zoning and building regulations.

YL-10: The Thomas Brothers map used and cited as the base map for the exhibit may be incorrect and was not intended to misrepresent the project as being within the City of Anaheim. A new Exhibit 3-2 is provided in the Final EIR.

Comment noted regarding commercial locations. The following revisions to the text of the second sentence in Section 3.2 are hereby included in the Final EIR:

> "North of Esperanza Road, in the City of Yorba Linda and unincorporated Orange County, the uses are primarily residential with some commercial just east of Imperial Highway on the north side of Esperanza Road."

See response to comment YL-1 regarding location of project within the City of Yorba Linda.

Given the irregular topography of the project site proposed wall heights are highly variable making it difficult to provide an exhibit with heights along the entire length of the alignment. Furthermore, the project is represented by the average wall height information provided in Table 7-1 of Appendix 2 and typical cross-sections provided in Exhibit 4.2-2. The following text is hereby incorporated between the second and last sentences in the first paragraph of Section 3.3 in the final EIR:

> "Average wall heights for sections of the proposed wall are provided in Table 7-1 of the Noise Study Report in Appendix 2 of the Final EIR."

YL-11: Section 15124(b) of the CEQA Guidelines does not specify that the discussion of project objectives must include those of responsible agencies. Yorba Linda concerns regarding noise impacts are addressed in City of Anaheim project objectives.

See response to comment YL-2. The City of Yorba Linda has no discretionary approval power over the project and is not a responsible agency under CEQA (CEQA Guidelines §15381).

YL-12: As stated in Section 3 Project Description, this project was created through specific fund designation in federal legislation with the express purpose of mitigating the increase in noise created by the BNSF Railroad expansion and projected rail trip increases. Funding did not take into consideration the additional costs of installation of soundproofing material in habitable structures and private property or right-of-way issues which could arise regarding such a proposal.

In response to questions raised by the City of Yorba Linda regarding the need to break the line of sight between the top of the locomotives and the top of the exterior wall of all habitable structures the City of Anaheim has prepared an evaluation of wall heights to meet the following noise criteria:

1. a maximum of 65 dB CNEL exterior at a point six feet above ground level; and/or
2. a maximum of 45 dB CNEL interior for any habitable rooms, including second story rooms, with the windows closed

The noise modeling effort found that the use of these criteria results in decreased wall heights in certain locations and increased wall heights in others. The following table summarizes the findings of the modeling effort. Wall heights displayed in the following table comply with the requirements of City of Anaheim Council Policy 542 and the project objectives and are hereby incorporated into project design. The referenced noise modeling effort is hereby incorporated as Appendix 14 of the Final EIR.

TABLE 3
NOISE MODELING RESULTS

Mile Post			Wall Height to Meet Exterior 65 CNEL at 6 ft Above Grade**	Exterior CNEL at 16 ft. Above Grade with Soundwall			Wall Height to Strive to Meet Interior 45 CNEL **
	West	East	m	Nearest Residence	At 66 m	At 180 m	m
A	62840	62710	**4.0 (-0.7)**	65	62	55	**4.0 (-0.7)**
A'	62710	62580	**4.0 (-0.7)***	65	62	55	**4.4* (-0.3)**
B	62580	62550	**4.2 (-0.2)**	NA	NA	NA	4.4
C	62550	62390	**3.5 (-1.8)**	NA	NA	NA	**4.4 (-0.9)**
D	62390	62230	**3.5 (-2.7)**	NA	NA	NA	**4.0 (-2.2)**
E	62230	62070	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
F	62070	62010	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
G	62010	61760	**3.5 (-3.2)***	65	62	56	**4.0* (-2.7)**
H	61760	61580	**3.0 (-3.7)**	65	62	55	**3.0 (-3.7)**
	61580	61540					
I	61540	61190	**3.5 (-1.0)**	67	63	57	**4 (-0.5)**
J	61190	60960	**4.0 (-0.5)**	67	63	58	**5.5 (+ 1.0)**
K	60960	60580	6	67	63	59	**6.5 (+0.5)**
L	60580	60440	7	67	63	60	**8 (+1.0)**
M	60440	60220	6.5	66	62	59	6.5
N	60220	59980	5.5	66	63	59	5.5
O	59980	59920	4.8	67	63	58	**6 (+1.2)**
P	59920	59860	4.3	67	63	58	**4.5 (+0.2)**
Q	59860	59740	**3.8 (-0.4)**	66	63	58	**5 (+0.8)**
R	59740	59700	**3.5 (-0.6)**	68	64	59	**6 (+1.9)**
S	59700	59660	**3.5 (-0.5)**	65	63	58	4
T	59660	59560	4	67	63	58	**5 (+1.0)**
U	59560	59480	4.5	67	63	58	**6 (+1.5)**
V	59480	59370	6	67	63	58	**8 (+2.0)**
W	59370	59180	6	66	63	58	6
X	59180	59100	4.3	67	63	58	**5 (+0.7)**
Y	59100	58990	**3.5 (-0.8)**	67	64	57	**4.5 (+0.2)**
Z	58990	58950	**0.6 (-3.7)**	67	65	57	**1 (-3.3)**

* Height of wall needs to be higher at this location to protect adjacent mobile home units.
** Numbers in parentheses are the change in wall height from the proposed wall heights in reference 1.
NA–Not Applicable

YL-13: See response to comment YL-10. Exhibit 4.2-2 demonstrates the typical cross-section of wall at a point between two station numbers along the alignment. Table 7-1 in Appendix 2 presents the average wall height along a stretch of the alignment between two station numbers. It follows that heights presented in Exhibit 4.2-2 would not correspond exactly with wall heights presented in Table 7-1 because the heights in Exhibit 4.2-2 illustrate one of a range of heights represented by the average presented in Table 7-1.

YL-14: Comment noted. The following text is hereby incorporated in Section 4.1.2 between the existing thresholds of significance:

> "• The cumulative CNEL increases by an amount greater than or equal to 6.5 percent."

See response to comment YL-4 regarding noise increases.

YL-15: See response to comment YL-4.

YL-16: Construction noise impacts are temporary in nature and not considered significant if compliant with local noise codes. The City of Anaheim Noise Ordinance does not allow construction activities between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or at any time on Sunday or a Federal holiday, and exempts construction activities occurring at other times from the noise ordinance parameters. Compliance with the Anaheim noise ordinance (which is stricter with respect to construction hours than the City of Yorba Linda noise code) is required and would reduce potential short-term noise impacts to a level considered less than significant.

YL-17: See response to YL-16

YL-18: The three-inch gap at the base of the proposed soundwall will be back-filled with crushed rock gravel. The gravel will effectively block noise "leaks" and will be of appropriate particle size to allow water to pass through thereby avoiding any substantial influence on existing drainage patterns.

YL-19: The threshold is consistent with the impact analysis because the analysis identifies the impact to the visual quality or character of the site as perceived by residents to the north of Esperanza Road. As discussed in the introduction to Section 4.2.2, viewer perception is subjective and sensitivity to changes in a view shed are determined by viewer activity, awareness, and how much the viewer has at stake in the view shed. The analysis measures significance by considering the impact of the change in the visual character or quality of the Esperanza corridor to those who are most sensitive to visual changes (i.e., residents with 24-hour views as opposed to the passerby). Use of these thresholds and the means by which impacts were examined has resulted in a finding of significant impact. The analysis does not specifically assess impacts to houses north of the first row of housing due to the fact that they are not as directly impacted as the first row of homes along Esperanza Road.

YL-20: Visual simulations are used to make a determination of whether or not a project will have a visual impact. Simulated views are not provided as the visual change has already been identified as a significant impact. Cross sections are provided in Exhibit 4.2-2 to give the dimensions of the wall at points along the alignment. The full range of wall heights both above rail elevation and actual height are disclosed in the impact analysis subsection of section 4.2 (pg. 4-7).

YL-21: Exhibit 4.2-2 is provided to depict typical cross-sections of the proposed soundwall and the relationship of the proposed soundwall and the relative height of the railroad tracks to residential uses to the south of the project at various points along the corridor. The property line shown represents the interface between private residential properties and the BNSF right-of-way, not city boundary lines.

YL-22: The project is compliant with Section 15021 of the *CEQA Guidelines* as it meets both

justifications for a finding of overriding considerations. As discussed in Section 5 of the EIR none of the project alternatives or alternative design components (including the mitigation measure promulgated by the City of Yorba Linda) are considered feasible as they are either inconsistent with project objectives or are not "capable of being accomplished in a successful manner and in a reasonable period of time, taking into account economic (emphasis added), environmental, legal, social, and technological factors." As stated in Section 3 Project Description, this project was created through specific fund designation in federal legislation with the express purpose of mitigating the increase in noise created by the BNSF Railroad expansion and projected rail trip increases. Alternative design components discussed in Section 5.2.3 have been recognized as potentially providing aesthetic relief by substantially blocking views of the wall with aesthetically pleasing trees, shrubs, a vegetated berm, etc.. However, given the cost and lack of funding source for the provision of the alternative design components they must be considered infeasible at this time. Therefore, the City of Anaheim has committed itself in a mitigation measure to work with the City of Yorba Linda in acquiring funding to reduce the visual impact of the soundwall.

The provision of aesthetic screening is not integral to the soundwall project design as the effectiveness of the soundwall in reducing noise impacts to residents of the City of Anaheim is not dependent upon it. The public benefit of reducing noise impacts of the BNSF railroad corridor are obvious as the health effects of severe noise are well documented and supported by evidence in the public record whereas aesthetic impacts are subjective and do not represent a health risk. Nevertheless, the City of Anaheim has committed itself to working with the City of Yorba Linda in acquiring funding for aesthetic mitigation.

YL-23: See response to YL-1. Grading and hydrology/water quality are subject to the approval of the Burlington Northern/Santa Fe railroad and RWQCB.

YL-24: See response to comment YL-1. The second sentence in the first paragraph of Section 4.5.1 is hereby revised to read as follows:

"The project site is located within the South Coast Air Basin (SCAB), a 6,600-square mile area comprised of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties."

YL-25: See response to comment YL-10.

YL-26: See response to comment YL-2. The City of Yorba Linda has no discretionary approval power over the project and is not a responsible agency under CEQA (CEQA Guidelines §15381).

In response to questions raised by the City of Yorba Linda regarding the need to break the line of sight between the top of the locomotives and the top of the exterior wall of all habitable structures the City of Anaheim has prepared an evaluation of wall heights to meet the following noise criteria:

1. a maximum of 65 dB CNEL at a point six feet above ground level; and/or

2. a maximum of 45 dB CNEL interior for any habitable rooms, including second story rooms, with the windows closed

The noise modeling effort found that the use of these criteria results in decreased wall

heights in certain locations and increases in others. The following table summarizes the findings of the modeling effort.

TABLE 3
NOISE MODELING RESULTS

Mile Post			Wall Height to Meet Exterior 65 CNEL at 6 ft Above Grade**	Exterior CNEL at 16 ft. Above Grade with Soundwall			Wall Height to Strive to Meet Interior 45 CNEL **
	West	East	m	Nearest Residence	At 66 m	At 180 m	m
A	62840	62710	**4.0 (-0.7)**	65	62	55	**4.0 (-0.7)**
A'	62710	62580	**4.0 (-0.7)***	65	62	55	**4.4* (-0.3)**
B	62580	62550	**4.2 (-0.2)**	NA	NA	NA	4.4
C	62550	62390	**3.5 (-1.8)**	NA	NA	NA	**4.4 (-0.9)**
D	62390	62230	**3.5 (-2.7)**	NA	NA	NA	**4.0 (-2.2)**
E	62230	62070	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
F	62070	62010	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
G	62010	61760	**3.5 (-3.2)***	65	62	56	**4.0* (-2.7)**
H	61760	61580	**3.0 (-3.7)**	65	62	55	**3.0 (-3.7)**
	61580	61540					
I	61540	61190	**3.5 (-1.0)**	67	63	57	**4 (-0.5)**
J	61190	60960	**4.0 (-0.5)**	67	63	58	**5.5 (+ 1.0)**
K	60960	60580	6	67	63	59	**6.5 (+0.5)**
L	60580	60440	7	67	63	60	**8 (+1.0)**
M	60440	60220	6.5	66	62	59	6.5
N	60220	59980	5.5	66	63	59	5.5
O	59980	59920	4.8	67	63	58	**6 (+1.2)**
P	59920	59860	4.3	67	63	58	**4.5 (+0.2)**
Q	59860	59740	**3.8 (-0.4)**	66	63	58	**5 (+0.8)**
R	59740	59700	**3.5 (-0.6)**	68	64	59	**6 (+1.9)**
S	59700	59660	**3.5 (-0.5)**	65	63	58	4
T	59660	59560	4	67	63	58	**5 (+1.0)**
U	59560	59480	4.5	67	63	58	**6 (+1.5)**
V	59480	59370	6	67	63	58	**8 (+2.0)**
W	59370	59180	6	66	63	58	6
X	59180	59100	4.3	67	63	58	**5 (+0.7)**
Y	59100	58990	**3.5 (-0.8)**	67	64	57	**4.5 (+0.2)**
Z	58990	58950	**0.6 (-3.7)**	67	65	57	**1 (-3.3)**

* Height of wall needs to be higher at this location to protect adjacent mobile home units.
** Numbers in parentheses are the change in wall height from the proposed wall heights in reference 1.
NA–Not Applicable

YL-27: See responses to comments YL-1, YL-2, and YL-10.

YL-28: See responses to comments YL-2, YL-3, and YL-4.

YL-29: See responses to comments YL-10, YL-12, YL-14, and YL-18.

YL-30: See responses to comments YL-22 and YL-26.

YL-31: See response to comment YL-22.

YL-32: See response to comment YL-2.

YL-33: See response to comment YL-2. The City of Anaheim has been working cooperatively with the City of Yorba Linda since the inception of this project and has made significant modifications through the CEQA process in response to suggestions made by Yorba Linda. In addition, the City of Anaheim has been working diligently with the City of Yorba Linda to identify additional funding for mitigation measures which would otherwise be infeasible.

LETTER RECEIVED FROM
THE COUNTY OF ORANGE
(CO)

dated March 29, 2001

County of Orange
Planning & Development Services Department

THOMAS B. MATHEWS
DIRECTOR

300 N. FLOWER ST.
SANTA ANA, CALIFORNIA

MAILING ADDRESS:
P.O. BOX 4048
SANTA ANA, CA 92702-4048

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DEPARTMENT

March 29, 2001 NCL 01-14

Mr. Eric Wiebke, Project Manager
City of Anaheim, Public Works Department
P. O. Box 3222
200 South Anaheim Boulevard
Anaheim, CA 92805

SUBJECT: DEIR for the Burlington Northern Santa Fe Railroad Corridor Soundwall Project

Dear Wiebke:

The above referenced item is a Draft Environmental Impact Report (DEIR) for the City of Anaheim. The proposed project involves the construction of a soundwall, approximately 12,900 feet in length, along the railroad corridor, extending from Imperial Highway (SR-90) to Yorba Linda Boulevard/Weir Canyon Road. The proposed soundwall will be completely constructed on railroad right-of-way along the south side of the corridor adjacent to existing single-family residences in the City of Anaheim.

In general, we appreciate the need for noise mitigation in this area, especially given the increases in rail traffic that are projected for this line. The DEIR appropriately identifies that there will remain a significant environmental impact of the project as it relates to aesthetics, even after mitigation. It is to be hoped that steps can be taken to minimize this significant effect as much as possible through the use of design features, and possibly landscaping. The County of Orange has reviewed the DEIR and offers the following specific comments:

FLOOD

1. Section 4.3 makes several references to a hydrology study or studies included in Appendices 3 and 4 of the DEIR (first paragraph on page 4-9, and Impact Analysis Section on page 4-10). It is unclear as to whether these references are to the Drainage Report in Appendix 5 of the DEIR or if there are other hydrology studies that have been omitted from the DEIR's appendices. **CO -1**

2. Section 6 of Appendix 5 refers to Yorba Park Storm Drain as Facility No. E01P62. This should be changed to "E01P63". **CO -2**

3. The DEIR makes numerous references to the drainage facilities in the area as being "County of Orange" facilities. The applicant should be aware that the County of Orange and Orange County Flood Control District (OCFCD) are two separate and distinct **CO -3**

entities. All facility ownership references should be researched and corrected. Information regarding OCFCD ownership of the referenced facilities can be obtained from the PFRD/Real Property/Right-of-Way Processing Section. John Pavlik, Chief of the Right-of-Way Processing Section can be contacted at (714) 834-2362.

CO -3 cont.

NOISE

4. In order to mitigate against potential reflective noise, the proposed application of sound absorbing panels on the north side of the proposed soundwall should be implemented uniformly along the full length of the soundwall, including the portion adjacent to the County unincorporated area.

CO -4

AESTHETICS

5. The mitigation measures proposed to address the significant aesthetic impacts to properties to the north of the proposed soundwall, should be implemented uniformly along the full length of the soundwall, including the portion adjacent to the County unincorporated area. Specifically, Mitigation Measure 2-1 and 2-2 should apply to and address impacts to the affected unincorporated area.

CO -5

CULTURAL RESOURCES

6. The Cultural Resources Report of the DEIR does not address paleontological resources. Also, we suggest mitigation regarding disposition of any funds to keep resources within Orange County.

CO -6

Thank you for the opportunity to respond to the DEIR. Please send one complete set of the Final EIR to me at the above address when they become available. If you have any questions, please contact me or feel free to call Charlotte Harryman directly. Charlotte may be reached at (714) 834-2522.

Very truly yours,

George Britton

George Britton, Manager
Environmental and Project
Planning Services Division

Response to Comments from the County of Orange dated March 29, 2001

CO-1: Your comment is noted. The first paragraph following ***Methodology, Computation Procedures and Assumptions*** in Section 4.3.2 is hereby revised to read as follows:

> "The Preliminary Drainage Report (Appendix 5) for this project contains hydrology maps showing drainage boundaries, areas, storm drain facilities and discharge rates (Appendix A of the Preliminary Drainage Report). Hydrologic computations are contained in Appendix B of the Preliminary Drainage Report. The methodology of analysis is contained in Section 5.2, page 3 of the Preliminary Drainage Report."

The fourth paragraph of Section 4.3.1 is hereby revised to read as follows:

> "The project site is not within a flood zone according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06059C0009 with an effective date of September 15, 1989."

CO-2: Your comment is noted. Text is hereby revised as appropriate in the Final EIR. The text is hereby revised in the second paragraph Section 6 of Appendix 5 as follows:

> "Three major drainage systems lie near the project boundaries but are not within the limits of the project. They belong to the County of Orange. They are the E01S01 Facility (East Richfield Channel), E01P14 (Esperanza Road Storm Drain), and the E01P63 (Yorba Park Storm Drain)."

CO-3: Your comment is noted. Facility ownership has been verified with the Public Facilities and Resources Department.

The second paragraph in Section 4.3.1 is hereby revised as follows:

> "The existing drainage facilities in the project area consist of several onsite drainage systems along the railroad and offsite systems that drain into two major offsite systems: 1) Orange County Flood Control District (OCFCD) Facility E0-6 (Esperanza Channel) and 2) OCFCD Facility E0-1 (Santa Ana River Channel). Surface runoff in the project area generally flows southerly along railroad right-of-way (ROW) into one of two OCFCD concrete drainage systems on the project site: E0-6 and E06SO1 (Blue Mud Storm Drain). Flow within these storm drains ultimately empties into the Santa Ana River located less than one-half mile south of the project site.

The first sentence of the fifth paragraph in Section 4.3.1 is hereby revised as follows:

> "As identified above, stormwater runoff from the project site drains to OCFCD facilities E0-6 and E06S01 within the BNSF right-of-way."

CO-4: Your comment is noted. The proposed project does include application of sound absorbing panels on the north side of the wall for the entire length of the soundwall.

CO-5: Your comment is noted. Any measures proposed to mitigate aesthetic impacts to properties to the north of the proposed soundwall would be implemented uniformly along the full length of the soundwall, including the entire portion adjacent to the County

unincorporated area. Mitigation measure 2-2 in Section 4.2.3 is hereby revised as follows:

"MM 2-2 The City of Anaheim shall work cooperatively with the City of Yorba Linda and the County of Orange in an effort to identify and secure funding to provide for visual screening along the entire length of Esperanza Road between Imperial Highway and Yorba Linda Boulevard in order to reduce the visual impact of the soundwall."

CO-6: Your comment is noted. Potential fossil-bearing deposits in the cities of Anaheim and Yorba Linda are found in the hills surrounding the urbanized lowlands. These hills consist of tertiary sandstones containing marine deposits which have produced fossilized marine invertebrates, fish, and the occasional whale. The lowlands consist of alluvial fan deposits which have eroded over time from the surrounding hills. Fossils generally do not survive the process of erosion intact and are not expected to occur in the lowlands. The proposed project is located in the lowlands of these cities in close proximity to the Santa Ana River. Therefore, there is a very low potential for paleontological resources to occur within the project site.

However, given that a certified archaeologist shall be onsite during project-related excavation and grading per mitigation measure 7-1, mitigation shall be modified to include consideration of paleontological. Text in Section 4.7.3 is hereby revised as follows:

"MM 7-1 An Orange County-certified archaeologist and paleontologist shall be retained to attend pre-grade meetings and to monitor earthmoving activities, including clearing, grubbing, and trenching at the site. The monitors would carefully inspect this area to assess the potential for significant prehistoric, historic, or paleontological resources. If a site is uncovered, then a subsurface evaluation may be needed to assess the resource. Further subsurface investigation may be needed if the site is determined unique/important for its prehistoric information."

LETTER RECEIVED FROM
THE ORANGE COUNTY TRANSPORTATION AUTHORITY
(OCTA)

dated March 12, 2001

OCTA

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Shirley McCracken
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egory T. Winterbottom
Alternate

March 12, 2001

City of Anaheim
Mr. Eric Wiebke
Public Works Department
P.O. Box 3222
200 South Anaheim Boulevard
Anaheim, CA 92805

Subject: Comments on the Burlington Northern/Santa Fe (BNSF) Railroad Corridor Soundwall Project Environmental Impact Report

Dear Mr. Wiebke:

The Orange County Transportation Authority (OCTA) has had the opportunity to review the above referenced document and has the following comments:

- On page 4-3, the EIR states that future rail traffic assumptions were based on the Southern California Association of Governments (SCAG)/OCTA *Orangethorpe Corridor Grade Crossing Study* (June 1996). For the purposes of this EIR, the worst case scenario was used, which assumes consolidation of all BNSF, Union Pacific and Southern Pacific east-west trains onto the BNSF line. This is no longer a valid assumption, and references to such consolidation should be removed from the document. **OCTA -1**

- The most current projection of the number of trains using the BNSF line in the future may be found in the *Alameda Corridor-East Trade Corridor Plan*, published by the Alameda Corridor East Construction Authority. While projections are provided for 2020 only in that report, a straight-line interpolation results in a 2010 number of 106 daily trains, including passenger trains. **OCTA -2**

- The project does not affect OCTA's railroad corridor, however, please note that the Southern California Regional Rail Authority (SCRRA) operates the MetroLink line within the project limits. Therefore, they should be contacted at the following address: **OCTA -3**

  Tom Hanley
  700 South Flower Street, 26th Floor
  Los Angeles, CA 90071-4101

Thank you for the opportunity to review the Environmental Impact Report for the Burlington Northern/Santa Fe Railroad Corridor Soundwall Project. Please contact me at 714-560-5751 or cdolan@octa.net with questions or comments.

Sincerely,

Christine Dolan

Christine Dolan
Assistant Transportation Analyst

Response to Comments from the Orange County Transportation Authority dated March 12, 2001

OCTA-1 The document based its rail traffic assumptions on projections currently used by the BNSF railroad. The BNSF railroad currently uses projections from the Southern California Associations of Governments (SCAG)/Orange County Transportation Authority (OCTA) *Orangethorpe Corridor Grade Crossing Study* (June 1996).

OCTA-2 The projections used in the Alameda Corridor-East Trade Corridor Plan have not yet been approved by the BNSF railroad. The BNSF soundwall EIR referenced projections currently in use by the BNSF railroad.

OCTA-3 Your comment is noted.

LETTER RECEIVED FROM
JIM HILL
(JH)

dated March 29, 2001

6085 Avenida Antigua
Yorba Linda, CA 92887
March 27, 2001

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PUBLIC
DEPARTM

Eric Wiebke, Project Manager
City of Anaheim, Public Works Dept.
P.O. Box 3222
Anaheim, CA 92805

Dear Mr. Wiebke,

The Draft Environmental Impact Report for the BNSF Corridor Soundwall Project leaves no doubt that Yorba Linda residents north of the project face significant environmental impacts. The project's Notice of Preparation notes that the project has the potential to **"substantially degrade the existing visual character or quality of the site and its surroundings."** It also refers to a **"permanent increase in ambient noise levels in the project vicinity above levels existing without the project. "** The DEIR describes seven plans to establish various combinations of berms, walls, and foliage north of the wall to mitigate the degrading impact to the viewscape, but all are declared infeasible. Degradation of the viewscape along Esperanza Boulevard, one of Yorba Linda's designated scenic corridors, remains unmitigated. The DEIR claims that increased noise reflected north into Yorba Linda will not be enough to be discernible due to the use of a sound-absorbing wall. However, sound testing of the wall was done with only a 12 x48 section of the wall material and a point source for noise. This test seems inadequate for learning anything relevant to the effects of a freight train passing along a 12,900 ft. wall. **JH -1**

This document clearly states that our viewscape will be compromised and that we will suffer a permanent increase in ambient noise levels. On behalf of my Yorba Linda neighbors, I am asking that the following requests be addressed in the project E.I.R.:

- Mitigate blockage of view by greatly reducing the proposed 22-foot wall height.
- Incorporate design components to be built concurrently with the rest of the project to provide visual screening of the wall from the Yorba Linda side and to prevent graffiti. These components could include ivy or some kind of vine to cover the wall and an earthen berm with landscaping on the north side of the rails. **JH -2**
- Guarantee that noise levels north of the wall are not increased as a result of this project. **JH -3**

Sincerely,

Jim Hill

Jim Hill

Response to Comments from Jim Hill dated March 29, 2001

JH-1 The 12 x 48-foot demonstration soundwall was constructed to evaluate the acoustical performance (i.e., shielding and absorptive characteristics) of a candidate, absorptive soundwall material. The information in the demonstration soundwall report provided in Appendix 3 is accurate and provides a valid representation of the shielding and absorptive characteristics of the material which was used when preparing final design noise barrier mass density, heights, lengths, and lateral positions.

JH-2 Wall heights were designed to comply with City of Anaheim Council Policy 542. In response to questions raised by the City of Yorba Linda regarding the need to break the line of sight between the top of the locomotives and the top of the exterior wall of all habitable structures in the City of Anaheim, the city has prepared an evaluation of wall heights to meet the following noise criteria:

1. a maximum of 65 dB CNEL exterior at a point six feet above ground level; and/or

2. a maximum of 45 dB CNEL interior for any habitable rooms, including second story rooms, with the windows closed

The noise modeling effort found that the use of these criteria results in decreased wall heights in certain locations and increased wall heights in others. The following table summarizes the findings of the modeling effort. Noise relief provided by the wall heights displayed in the following table would comply with the requirements of City of Anaheim Council Policy 542 and the project objectives. The referenced noise modeling effort is hereby incorporated as Appendix 14 of the Final EIR.

TABLE 3
NOISE MODELING RESULTS

Mile Post			Wall Height to Meet Exterior 65 CNEL at 6 ft Above Grade**	Exterior CNEL at 16 ft. Above Grade with Soundwall			Wall Height to Strive to Meet Interior 45 CNEL **
	West	East	m	Nearest Residence	At 66 m	At 180 m	m
A	62840	62710	**4.0 (-0.7)**	65	62	55	**4.0 (-0.7)**
A'	62710	62580	**4.0 (-0.7)***	65	62	55	**4.4* (-0.3)**
B	62580	62550	**4.2 (-0.2)**	NA	NA	NA	4.4
C	62550	62390	**3.5 (-1.8)**	NA	NA	NA	**4.4 (-0.9)**
D	62390	62230	**3.5 (-2.7)**	NA	NA	NA	**4.0 (-2.2)**
E	62230	62070	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
F	62070	62010	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
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H	61760	61580	**3.0 (-3.7)**	65	62	55	**3.0 (-3.7)**
	61580	61540					
I	61540	61190	**3.5 (-1.0)**	67	63	57	**4 (-0.5)**
J	61190	60960	**4.0 (-0.5)**	67	63	58	**5.5 (+ 1.0)**
K	60960	60580	6	67	63	59	**6.5 (+0.5)**

TABLE 3 (CONTINUED)
NOISE MODELING RESULTS

Mile Post			Wall Height to Meet Exterior 65 CNEL at 6 ft Above Grade**	Exterior CNEL at 16 ft. Above Grade with Soundwall			Wall Height to Strive to Meet Interior 45 CNEL **
	West	East	m	Nearest Residence	At 66 m	At 180 m	m
L	60580	60440	7	67	63	60	**8 (+1.0)**
M	60440	60220	6.5	66	62	59	6.5
N	60220	59980	5.5	66	63	59	5.5
O	59980	59920	4.8	67	63	58	**6 (+1.2)**
P	59920	59860	4.3	67	63	58	**4.5 (+0.2)**
Q	59860	59740	**3.8 (-0.4)**	66	63	58	**5 (+0.8)**
R	59740	59700	**3.5 (-0.6)**	68	64	59	**6 (+1.9)**
S	59700	59660	**3.5 (-0.5)**	65	63	58	4
T	59660	59560	4	67	63	58	**5 (+1.0)**
U	59560	59480	4.5	67	63	58	**6 (+1.5)**
V	59480	59370	6	67	63	58	**8 (+2.0)**
W	59370	59180	6	66	63	58	6
X	59180	59100	4.3	67	63	58	**5 (+0.7)**
Y	59100	58990	**3.5 (-0.8)**	67	64	57	**4.5 (+0.3)**
Z	58990	58950	**0.6 (-3.7)**	67	65	57	**1 (-3.3)**

* Height of wall needs to be higher at this location to protect adjacent mobile home units.
** Numbers in parentheses are the change in wall height from the proposed wall heights in reference 1.
NA–Not Applicable

Alternative design components were considered in Section 5.2.3 of the DEIR but were found infeasible due to lack of funding. The use of ivy or vines as visual screening on the soundwall is not considered feasible as it would detract from the wall's sound absorbent characteristics and could result in increased noise levels for residences north of Esperanza Road.

JH-3 Potential soundwall related reflective noise impacts on City of Yorba Linda residences would be mitigated by project design which incorporates the use of absorbent materials on the north face of the wall. With the use of these sound absorbing materials there would be a 0.7 dBA increase in existing noise levels for residents to the north of Esperanza Road. Noise level changes of less than 1 dB CNEL are not considered perceptible to the human ear. Therefore, in accordance with criteria designed by the Federal Railroad Administration (FRA) and Federal Transit Administration (FTA), the project would not result in an impact or result in a discernible noise increase for residents north of Esperanza Road. Additionally, the sound absorbing wall could result in a reduction in noise which is currently reflected by existing non-absorbing masonry walls on the south side of the BNSF right-of-way.

LETTER RECEIVED FROM RESIDENTS OF ANAHEIM (SP)

dated March 28, 2001

We support the BNSF Soundwall Project. We have reviewed the "EIR Burlington Northern/Santa Fe Railroad Corridor Soundwall Project" and find it acceptable. Please do not hesitate to contact us with any questions.

RECEIVED
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SP-1
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DEPAR

Name	Address	Phone Number
Becky Kirkley	5815 E. La Palma # 99 Ana, CA 92807	(714) 970-2192
Jessica Barnett	5815 E. La Palma Ave #99 Anaheim, CA 92807	(714) 970-2152
KAREN MOLEY	5815 E. LA PALMA #8 ANAHEIM, CA 92807	714-970-5363
Edna Predmore	5815_10 E. LA PALMA, A. Anaheim. 92807	714.693-7016
Christine Neff	5815 E La Palma Ave #13 Anaheim Hills 92807	714-693-5308
M. NEFF	5815 E. LA Palma Ave #13 Anh. CA. 92807	714 693-5308
C Snyder	#95	(714) 777-7250
Ron Snyder	#95	(714) 777-7250
Cari Rosenthal	#97	(714) 777-5653
PROF. Rosenthal	#97	(714) 777-5653
Renée Johnson	#94	(714) 779-2339
	#91	714 970 7241
KARA WALTON	#169	714 296 5007
	#169	714 296 5472
VELMA Keiter	# 314	970-7621

We support the BNSF Soundwall Project. We have reviewed the "EIR Burlington Northern/Santa Fe Railroad Corridor Soundwall Project" and find it acceptable. Please do not hesitate to contact us with any questions.

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Name	Address	Phone Number
Christopher Lewis	5815 E. La Palma St. #109 Anaheim, CA 92807	(714)336-5498
David W. Lewis	5815 E LA PALMA AVE, #109 ANAHEIM, CA 92807	714 920 50 82
Virginia Lewis	" "	" "
Shirley Rogers	5815 E La Palma 108 ANAHEIM CA	714-779-5368
Leon [illegible]	5815 E LA PALMA 102 ANAHEIM, CA	714-779-7990
Char Hohnstein	" " #103	714 693-0620
Lambi Mucci	" " #9	714-695-9303
Jessie V. Aguilera	" " #9	714 695-9303
Harold Puig	" " " #112	970-6550
Morghan Tuttle	5815 E. La Palma Ave #7 Anaheim CA	779-8576
Roshan Cyriac	5815 E. LA PALMA #6 Anaheim Hills CA	714 970-9240
Donald Lewis	5815 E La Palma Ave Co Space 103	714 910-7411
Kristin Kirkley	5815 E La Palma Ave #99	714 970-2152
Mark Kirkley	5815 E La Palma Ave Spc #99	714 970-2152
Nicole Kirkley	5815 E. La Palma Ave #99	714-970-2152

We support the BNSF Soundwall Project. We have reviewed the "EIR Burlington Northern/Santa Fe Railroad Corridor Soundwall Project" and find it acceptable. Please do not hesitate to contact us with any questions.

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DEPARTMENT

Name	Address	Phone Number
Jalinda Larbin	6244 E. Northfield Anaheim	970-5641
Laura Jansen	6263 Northfield Ana	693-9262
Glenda Bridges	6269 E. Northfield Ave	970-6800
Eugene Gordon	6260 Northfield Ave	777-759
Leanna Hatfield	6251 E. Northfield Ana	779-0339
Bill Brick	6250 E. Northfield Ave	779-1809
[illegible]	6238 E. NORTHFIELD AVE	779-5841
Meredith Brick	6250 E. Northfield Ave.	779-1809
[illegible]	6251 E. NORTHFIELD AV.	777-0339
Keith Larbin	6244 E. NORTHFIELD AV	970-5641
Joe Jansen	6263. Northfield Av.	693-9262
Karen Kegan	7816 E. WOODSBORO ANA.	777-0177
[illegible]	7816 E. Woodsboro Ana	777-0177
Tammy Swails	6245 E. Northfield, Ana	693-8670
Don Adams	6227 Northfield, Anaheim	779-0171

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MAR 2 8 2001

We support the BNSF Soundwall Project. We have reviewed the "EIR Burlington Northern/Santa Fe Railroad Corridor Soundwall Project" and find it acceptable. Please do not hesitate to contact us with any questions.

Name	Address	Phone Number
Tricia Snyder	5815 E. La Palma #317	714-693-0621
Sabrina Ellis	5815 E. LA PALMA SPC 168 ANAHEIM, 92807	714-693-9855
Dave Benson	5815 E LaPalma sp 252 Anaheim 92807	714-693-9371
Brenda Benson	5815 E. La Palma #252 Anaheim CA 92807	714-693-9371
Richard Pavel	5815 E. LaPalma #168 Anaheim, Ca. 92807	714 693 9855
Bert Tomlinson	5815 E. LAPALMA #47 ANAHEIM. CA 92807	714-695-9395
Kathy Wright	SP 144	970-654-4
Ray Wright	"	"
Mark Wright	"	"
Mike Wright	"	"

We support the BNSF Soundwall Project. We have reviewed the "EIR Burlington Northern/Santa Fe Railroad Corridor Soundwall Project" and find it acceptable. Please do not hesitate to contact us with any questions.

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Name	Address	Phone Number
Dacra Raper	5815 E. La Palma #247	970-7575
JAMES JOHNSON	5815 E. LA PALMA SPACE 94	779-2339
DON McGREGOR	5815 E. LA PALMA #234	693-8120
Joy McGregor	"	"

Response to Comments from Residents of Anaheim dated March 28, 2001

SP-1 Your comments are noted.

LETTER RECEIVED FROM
KAREN MOREY
(KM)

dated March 6, 2001

March 6, 2001

RECEIVED
MAR 07 2001
PLANNING DEPARTMENT

Eric Wiebke
City of Anaheim
Public Works Department
P.O. Box 3222
Anaheim, CA 92803

Re: Draft Environmental Impact Report – BNSF Corridor Soundwall Project

Dear Mr. Wiebke,

I have reviewed the DEIR for the BNSF Corridor Soundwall Project, and I would like to commend the people responsible for putting this document together. I felt it was very well done, and covered all the aspects of the project.

I am a resident at 5815 E. La Palma Ave., the Friendly Village Manufactured Home Park. The trains traveling along the railroad tracks directly affect me.

The noise from the trains seems to be increasing, and it seems there are more trains now, than when I moved in to the park 18 months ago. I understand that a third rail track is proposed, and if that occurs, then the noise and frequency of the trains will be greatly increased. KM -1

I fully believe that the soundwall, which will be absorbent, and not reflective, will be a benefit to the residents of Yorba Linda as well as those of us in Anaheim. I don't believe that the soundwall will be a determent to anyone. I think that Yorba Linda would prefer to see a nicer looking wall than what they currently are viewing. They currently view the railroad tracks, many privacy walls that are worn and dirty, and some trees. I noticed only a couple of very small areas that might be adversely affected by a wall of any type, and those areas are at the intersections of streets with Esperanza.

I hope that the soundwall goes through and that the City of Yorba Linda will see the benefit that it affords the residents of Anaheim, and most likely will benefit the residents of Yorba Linda.

Yours truly,

Karen A. Morey

Karen A. Morey
5815 E. La Palma Ave. Space 8
Anaheim, CA 92807-2234

Response to Comments from Karen Morey dated March 6, 2001

KM-1 Your comment is noted.

SECTION 4
CLARIFICATIONS AND REVISIONS TO THE ENVIRONMENTAL IMPACT REPORT

Based on the input received during the public review period and the preparation of response to comments, the following clarifications and revisions have been made to the EIR.

TABLE 1-1

Mitigation Measure 1-1 is hereby revised as follows:

> "Construction activities shall not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or at any time on Sunday or a Federal Holiday."

SECTION 2.3 PROJECT APPROVAL ACTIONS

The following text is hereby incorporated into the end of the first paragraph.

> "As per NEPA a Preliminary Environmental Study (PES) was prepared for the project. The PES concluded that the project is Categorically Excluded from further NEPA analysis."

SECTION 3.1

A revised Exhibit 3-2 is hereby incorporated (see following page).

SECTION 3.2 SITE CHARACTERISTICS

The second sentence is hereby revised to read as follows:

> "North of Esperanza Road, in the City of Yorba Linda and unincorporated Orange County, the uses are primarily residential with some commercial just east of Imperial Highway on the north side of Esperanza Road."

SECTION 3.3 PRIMARY PROJECT COMPONENTS

The following text is hereby incorporated between the second and last sentences in the first paragraph:

> "Average wall heights for sections of the proposed wall are provided in Table 7-1 of the Noise Study Report provided in Appendix 2 of the Final EIR."

The following text is hereby incorporated between the first and second paragraphs of Section 3.3:

> "In addition to the proposed soundwall a retaining wall would be constructed immediately adjacent to the east of Imperial Highway between railroad Stations 626+30 and 627+90 (Segment A on Exhibit 3-3) within the proposed soundwall limits. Wall design consists of a 5-foot maximum height APWA standard retaining or similar wall to align with the proposed soundwall. Should funding be available, a second retaining wall would be constructed to the west of Fairmont Boulevard between railroad Stations 618+54 and 619+70 (Segment G on Exhibit 3-3) within the proposed soundwall limits. The space between these retaining walls and the soundwall would be filled with soil to provide additional support for the soundwall and to eliminate the hazard associated with the enclosed area otherwise created by soundwall construction. Soundwall pile foundations would extend up to the retained soil height and be

Project Location Map

Exhibit 3.2

Burlington Northern Santa Fe Railroad Corridor Soundwall Project

0.3 0 0.3 0.6 Miles

Bonterra CONSULTING

isolated from the retaining wall."

SECTION 4.1 NOISE

The following text is hereby incorporated in Section 4.1.2 between the existing thresholds of significance:

- The cumulative CNEL increases by an amount greater than or equal to 6.5%.

SECTION 4.2.3

Mitigation measure 2-2 in Section 4.2.3 is hereby revised as follows:

"MM 2-2 The City of Anaheim shall work cooperatively with the City of Yorba Linda and the County of Orange in an effort to identify and secure funding to provide for visual screening along the entire length of Esperanza Road between Imperial Highway and Yorba Linda Boulevard in order to reduce the visual impact of the soundwall."

SECTION 4.3 HYDROLOGY AND WATER QUALITY

The last sentence of the first paragraph of Section 4.3 is hereby revised to read as follows:

"The preliminary drainage report is included in its entirety in Appendix 5."

The second paragraph in Section 4.3.1 is hereby revised as follows:

"The existing drainage facilities in the project area consist of several onsite drainage systems along the railroad and offsite systems that drain into two major offsite systems: 1) Orange County Flood Control District (OCFCD) Facility E0-6 (Esperanza Channel) and 2) OCFCD Facility E0-1 (Santa Ana River Channel). Surface runoff in the project area generally flows southerly along railroad right-of-way (ROW) into one of two OCFCD concrete drainage systems on the project site: E0-6 and E06SO1 (Blue Mud Storm Drain). Flow within these storm drains ultimately empties into the Santa Ana River located less than one-half mile south of the project site.

The first sentence of the fifth paragraph in Section 4.3.1 is hereby revised as follows:

"As identified above, stormwater runoff from the project site drains to OCFCD facilities E0-6 and E06S01 within the BNSF right-of-way."

The second paragraph in Section 4.3.1 is hereby revised as follows:

"The existing drainage facilities in the project area consist of several onsite drainage systems along the railroad and offsite systems that drain into two major offsite systems: 1) Orange County Flood Control District (OCFCD) Facility E0-6 (Esperanza Channel) and 2) OCFCD Facility E0-1 (Santa Ana River Channel). Surface runoff in the project area generally flows southerly along railroad right-of-way (ROW) into one of two OCFCD concrete drainage systems on the project site: E0-6 and E06SO1 (Blue Mud Storm Drain). Flow within these storm drains ultimately empties into the Santa Ana River located less than one-half mile south of the project site.

The fourth paragraph of Section 4.3.1 is hereby revised to read as follows:

"The project site is not within a flood zone according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06059C0009 with an effective date of September 15, 1989."

The first sentence of the fifth paragraph in Section 4.3.1 is hereby revised as follows:

"As identified above, stormwater runoff from the project site drains to OCFCD facilities E0-6 and E06S01 within the BNSF right-of-way."

The first paragraph following ***Methodology, Computation Procedures and Assumptions*** in Section 4.3.2 is hereby revised to read as follows:

"The Preliminary Drainage Report (Appendix 5) for this project contains hydrology maps showing drainage boundaries, areas, storm drain facilities and discharge rates (Appendix A of the Preliminary Drainage Report). Hydrologic computations are contained in Appendix B of the Preliminary Drainage Report. The methodology of analysis is contained in Section 5.2, page 3 of the Preliminary Drainage Report."

SECTION 4.5 AIR QUALITY

The second sentence in the first paragraph of Section 4.5.1 is hereby revised to read as follows:

"The project site is located within the South Coast Air Basin (SCAB), a 6,600-square mile area comprised of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties."

SECTION 4.7

Mitigation Measure 4.7 in Section 4.7.3 is hereby revised as follows:

MM 7-1 An Orange County-certified archaeologist and paleontologist shall be retained to attend pre-grade meetings and to monitor earthmoving activities, including clearing, grubbing, and trenching at the site. The monitors would carefully inspect this area to assess the potential for significant prehistoric, historic, or paleontological resources. If a site is uncovered, then a subsurface evaluation may be needed to assess the resource. Further subsurface investigation may be needed if the site is determined unique/important for its prehistoric information.

APPENDIX 5

The second paragraph of Section 6 is hereby revised to read as follows:

"Three major drainage systems lie near the project boundaries but are not within the limits of the project. They belong to the County of Orange. They are the E01S01 Facility (East Richfield Channel), E01P14 (Esperanza Road Storm Drain), and the E01P63 (Yorba Park Storm Drain)."

APPENDIX 14

A revised noise report dated April 24, 2001 is hereby incorporated into Appendix 14 of the Final EIR (see following page).

APPENDIX 14

REVISED NOISE MODELING REPORT
DATED APRIL 24, 2001

Evaluation of Wall Height to Meet Only Exterior 65 CNEL Criterion and Evaluation of Wall Heights to Strive to Meet Interior 45 CNEL Criterion

INTRODUCTION

The City of Anaheim is acting as lead agency for the implementation of the Burlington Northern Santa Fe (BNSF) Rail Corridor noise mitigation in the form of a 3,900 m long soundwall to reduce noise exposures for Anaheim residences to meet the City of Anaheim's noise standards. Acentech performed a study that recommended soundwall heights that would reduce Design Year 2010 exterior noise exposures due to the BNSF corridor to 65 CNEL[1]. There are approximately 473 single-family units, 161 mobile home units and 15 apartment buildings in the study area.

The proposed soundwall was designed to reduce exterior noise to 65 CNEL measured 6 ft above the grade. In addition, in order to strive to limit interior noise levels to 45 CNEL the wall height was designed to brake the line of sight between the top of the locomotives and the top of the exterior surface of all habitable structures within 180 m (600 ft) south of the tracks. During the environmental review process for the proposed soundwall, questions have been raised regarding the need to break the line of sight between the top of the locomotives and the top of the exterior wall of all habitable structures. At issue is not the desired goal of interior 45CNEL.

In order to provide additional information regarding wall height requirements, Acentech has performed additional measurements and modeling:

1. Determine the wall necessary to meet the City of Anaheim exterior noise standard of 65 CNEL at 6 ft above local grade on residential properties.
2. Determine the wall height that would strive to meet the City of Anaheim interior noise standard of 45 CNEL in habitable rooms. The key habitable rooms would be 2nd story rooms that have windows or skylights.

Field Measurement Procedures

Field observations show that a reasonable measurement height for a person standing on the 2nd story is 16 ft above grade and for a person standing in a mobile home is 8 ft above grade. Noise measurements were made in the study area to establish the magnitude of noise impacts before the soundwall is installed and to provide information to calibrate the noise model for predicting noise levels at 16 ft above grade.

Three representative measurement locations were selected. Two locations coincided with two of the measurement locations at 6 ft above grade reported in the noise study[1]. Both of these units had a second story. In addition, measurements were made on the residential balcony of the Canyon Village Apartments. All three measurements were made at a location 16 ft above grade and in line with the edge of the residence.

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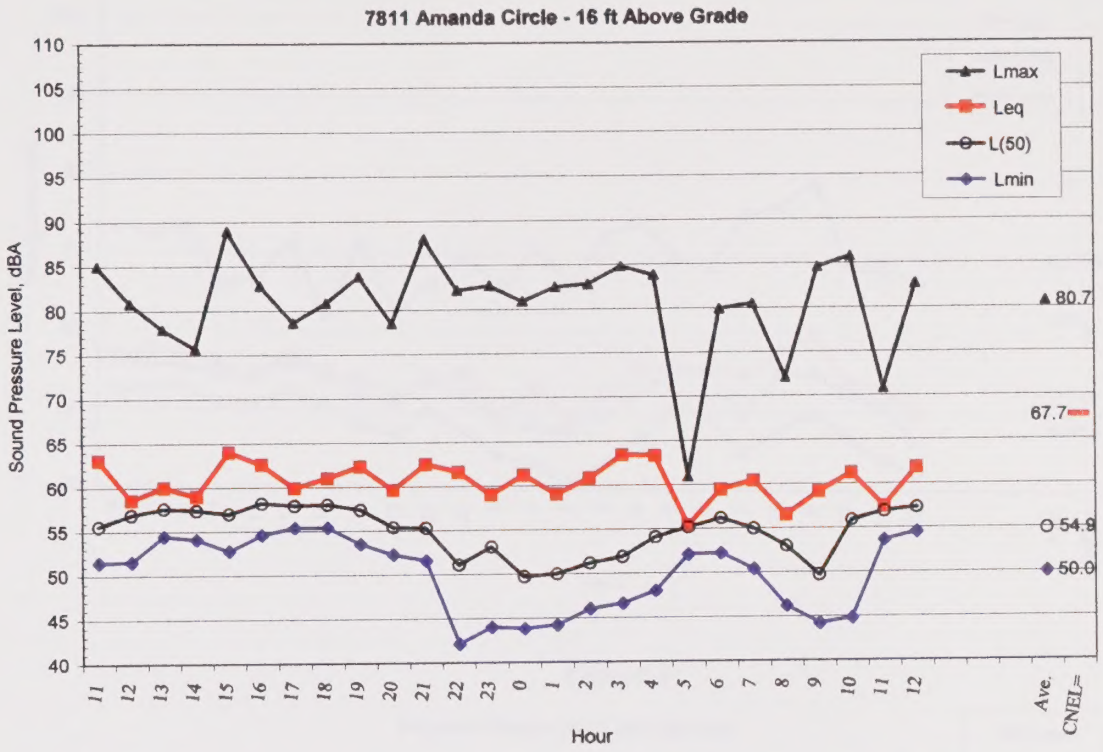
1. Nugent, R. E. and Busch, T. A., "BNSF Rail Corridor Soundwall Noise Study," Acentech Report No. 255 (September 2000, revised January 2001)

Noise Measurement Results

The average daily CNEL and hourly Leq, Lmax (maximum level), median level L_{50}[2] and L_{min} were measured and are reported for each of the three noise monitoring sites.

Figure 1



7811 Amanda Circle. The backyard of this residence abuts the BNSR corridor. The measurements were made 12 m (40 ft) south of the existing 12-ft high block wall that is on the northern edge of the property. From a position 6 ft above grade the tops of the locomotives are visible. The results of the 24-hour measurements conducted between 10:00 on 10 April and noon on 11 April 2001 are presented in the Figure 1. The CNEL was 67.7 dBA. For comparison, the CNEL measured 6 ft above grade in January of 2000 was 65.1 dBA. The increase in level is attributed to the reduced shielding at 16 ft above grade. The maximum levels correspond to the locomotive noise emissions. The maximum levels indicate that no freight trains operated between 05:00 and 06:00.

7850 Samantha Circle. The front yard of this residence faces the rail corridor and is about 180 m from the corridor, at the edge of the study area. The results of the 24-hour measurements made between 13:00 on 11 April and 14:00 on 12 April 2001 are presented in the Figure 2 below. The CNEL was 60.9 dBA. There was street construction a block away in the morning of the second day of monitoring, as evident by the slight increase in levels during 08:00 and 09:00, which had a minor influence (<0.5 dB) on the CNEL. For comparison, the CNEL measured 6 ft above grade in January of 2000 was 58.8 dBA.

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[2] L_{50} is the median level – the level exceeded 50 percent of time during the hour.

Figure 2

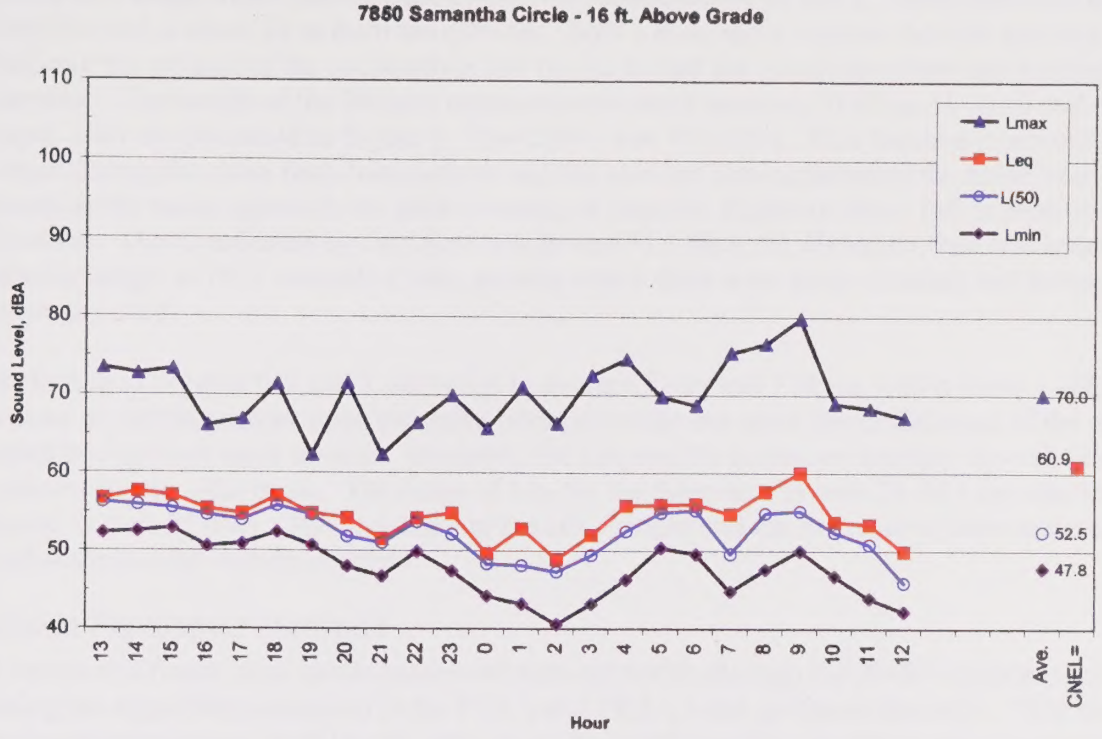
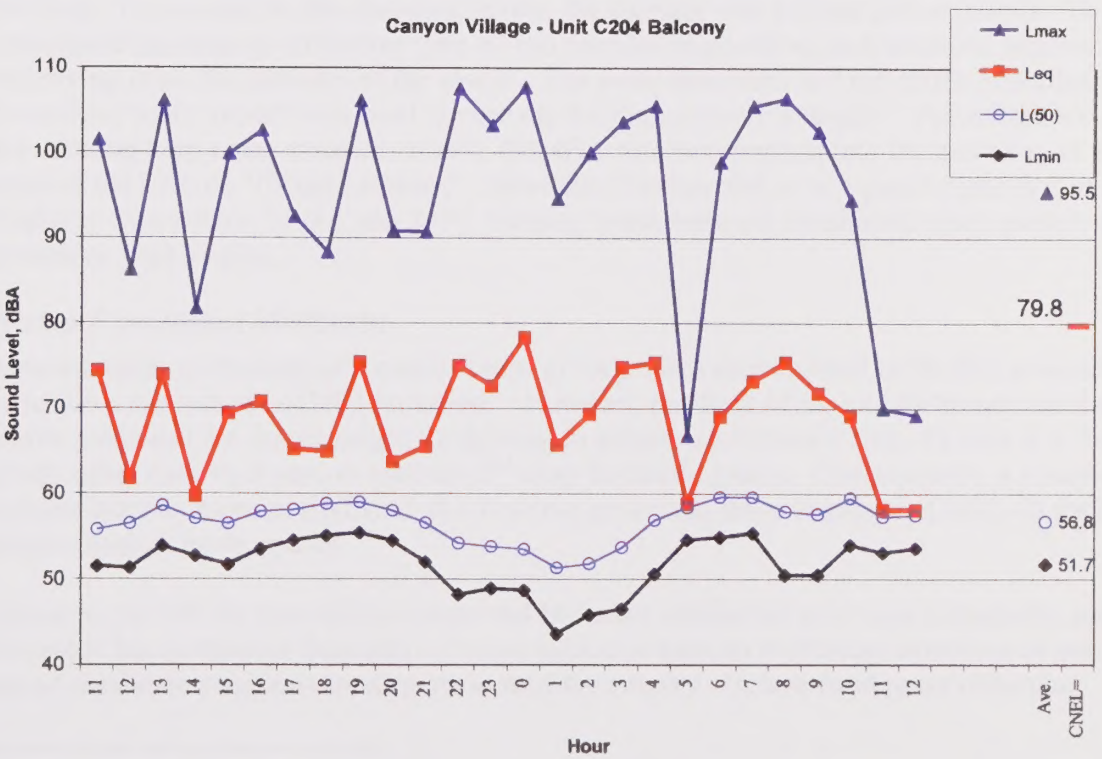


Figure 3



Canyon Village Apartments, Unit C204. The front balcony of this 2nd story residence faces the rail corridor and is about 26 m from the corridor. Both a door and a window face the balcony. From the balcony the top half of the locomotives are visible behind the garage structure that borders the rail corridor. The results of the 24-hour measurements made between 10:00 on 10 April and noon on 11 April 2001 are presented in Figure 3. The CNEL was 79.8 dBA. This location is not only experiencing the noise from locomotives and rail cars but also experiences the noise from warning horns as the trains approach the grade crossing at Imperial Highway about 150 m west of the monitor location. This is reflected by the Lmax which was 95.5 dBA, 15 dB higher than was measured at a similar height at 7811 Amanda Circle, an area where there is no grade crossing and horns are not normally used.

Referring to Figures 1, 2 and 3, the range in average Lmin and L50 are within about 4 dB. These values are not dependent upon the noise from rail traffic but upon the traffic noise of the area and other background noise sources. However, the Leq and the Lmax are strongly dependent upon the noisiest source—the trains. The range of Leq for the three sites is over 20 dBA and the range in Lmax is over 25 dBA. The proximity to the rail corridor and the existence of horn noise are the main influences on the measured level.

Noise Prediction Methods

Current and future noise levels associated with rail traffic through the BNSF Corridor were estimated using the algorithms contained in the FTA's and FRA's noise guidance manuals[3]. This method uses train noise emissions, train length, train speed, hours of operation and the equivalent number of daily trips to estimate noise exposures. The noise shielding provided by barriers was considered using source heights, location of soundwall, height of sound wall, location of receiver and height of receiver. To account for the changing terrain, the corridor was divided into segments. The analysis considered the noise contribution from all rail corridor segments to each modeled receiver, thereby improving upon the accuracy of the results. The noise emissions and rail traffic described in the Soundwall Study report were used to evaluate the higher receiver height[1]. For calibration purposes, the warning horn noise emission of SEL 108 dBA was incorporated into the modeling of existing noise at the Canyon Village Location[3]. Since there is expected to be a grade separation at Imperial Highway intersection by the year 2010, warning horns were not considered when modeling to determine wall heights.

Noise Prediction Methods

Measurements performed on a mobile home in the project area resulted in 20 dBA measured outside to inside noise reduction (NR) for trains.[4]. However, the floor of the mobile homes are about 2 ft above grade and the design height for striving to achieve an interior CNEL 45 dBA is 8 ft above grade rather than 16 ft used to evaluate 2nd story habitable spaces. Consequently, a soundwall that reduces exterior noise to CNEL 65 at 8 ft above grade will strive to provide CNEL 45 for habitable interior mobile home spaces.

However, the NR for non-mobile single and two story residential structures is typically greater. Acentech has performed thousands of noise reduction tests on residential structures as part of the sound insulation programs for airports around the country. Octave band noise reduction

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3 "Noise and Vibration Assessment Guidelines Manual," Federal Transit Authority, 1995 and "High-Speed Ground Transportation Noise and Vibration Impact Assessment, Final Draft," Federal Rail Authority, December 1998.

4 Noise Reduction is the difference in noise levels measured outside the house and measured inside the house.

measurements for 185 California homes were use to computed average octave band noise reductions OBNR[5].

A-weighted octave band train CNEL values in the backyard after passing over the soundwall were estimated at 16 ft above grade. The total exterior CNEL for all rail traffic was calculated to be 66 dBA at the exterior building surface. The OBNR values were subtracted from the exterior octave band CNEL values for locomotives and for the rail cars to find the average interior octave band CNEL due to each. The total interior CNEL level (45 dBA) was subtracted from the total exterior CNEL (66 dBA) to provide an A-weighted NR of 21 dBA. This NR was added to the 45 dBA interior goal to provide the maximum allowable exterior CNEL of 66 necessary to strive to achieve the interior 45 CNEL. These calculations are summarized in Table 1.

Table 1: Interior CNEL Estimation for Typical Residential Structures

	Octave Band Center Frequency, Hz							
	63	125	250	500	1000	2000	4000	dBA
Exterior CNEL, Rail Cars,* dBA	59	59	58	56	58	56	51	66
Exterior CNEL, Locomotives,* dBA	48	55	48	48	45	41	38	57
Total Exterior CNEL, dBA, From Trains								**66**
Average Noise Reduction, dBA	16	21	23	27	29	28	29	
Standard Deviation, dB	4.9	3.7	3.4	3.7	3.7	4.5	6.9	
Interior CNEL, Rail Cars, dBA	43	38	35	29	29	28	22	45
Interior CNEL, Locomotives, dBA	32	26	25	21	16	13	9	33
Total Interior CNEL, dBA, From Trains								**45**
Noise Reduction, dBA								**21**
City of Anaheim Interior CNEL Goal, dBA								**45**
Maximum Exterior CNEL to Strive to Meet Interior 45 CNEL								**66**

* Filtered for the effects of an assumed wall based upon results of the scale model tests.

Wall Height Modeling Results

Existing Scenario. The existing scenario was modeled in order to compare measured with modeled results. Table 2 compares the measured CNEL to the modeled results for the three monitor locations. The measured CNEL values are made up of not only rail noise but include contributions from other noise sources in the area.

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[5] Octave Band - A frequency range that is one octave wide. Standard octave bands are designated by their center frequency. The interval between the lower and upper frequencies in an octave band has a ratio of two. In acoustics the octave band is denoted by the octave band center frequency, which is the geometric mean of the upper and lower frequencies of the octave.

Table 2 Comparison of Modeled CNEL and Measured CNEL at 16 ft Above Grade

Location	Description	Measured CNEL	Modeled CNEL	Difference
7811 Amanda Circle	East of Fairmont Blvd, Existing Wall	67.7	66.8	0.9
7850 Samantha Circle	East of Fairmont Blvd, Existing Wall	60.9	58.5	2.4
Canyon Village Apartments, Unit C204	West of Fairmont Blvd, No Wall	79.8	79.3	0.5

The noise model was calibrated by adjusting the modeled results to those observed at the nearest measurement locations. The model provided estimates that were within 1 dB of measured levels for the two residences nearer the rail corridor. The differences between modeled and measured exposures for the locations at the far edge of the study area (7850 Samantha Circle) are attributed to influences from traffic noise on SR-91 and local streets as well as by other noise sources such as distant aircraft.

Modeled results in Table 2 for locations east of Fairmont Boulevard, where there are existing walls at the north edges of the properties, were adjusted by +0.9 dB. No adjustments were made to the modeled results for those areas west of Fairmont Boulevard.

Proposed Action

The soundwall height to achieve 65 CNEL exterior criteria at 6 ft above grade was determined. It was assumed that by the design year of 2010 the horn noise would no longer occur near Imperial Highway because of the proposed grade separation. The wall heights to meet 65 CNEL at 6 ft above grade are presented in Table 3. The corresponding exterior CNEL at 16 ft above grade are also shown in Table 3 for three distances from the rail corridor. All wall heights are given in meters above the top of the rail.

In some cases the wall height to achieve 65 CNEL at 6 ft above grade was less than that required to break the line of sight between the top of exterior structures and the top of the locomotive. Those wall heights that decreased are shown on bold printing in Table 3. The changes in wall heights are shown in parenthesis.

The estimated level at 16 ft above grade is between 65 and 68 dBA at the nearest residents for all applicable segments. Therefore, meeting the exterior standard of 65 CNEL at 6 ft above grade may not be sufficient to strive to meet an interior 45 CNEL for all habitable rooms within the structure. The wall height requirements to strive to meet the interior 45 CNEL are shown in the last column of Table 3.

The wall heights required to strive to meet 45 CNEL in the mobile home park (corridor segments B through F) are slightly higher since they correspond to an exterior 65 CNEL measured at 8 ft above grade. Also the wall heights for the segments adjacent to both sides of the mobile home park are influenced by meeting 65 CNEL at 8 ft above grade for the mobile home park.

Table 3 Noise Modeling Results Revised 5/21/01

	Mile Post		Exterior Wall Height to Meet 65 CNEL at 6 ft above Grade **	Exterior CNEL at 16 ft. Above Grade with Soundwall			Exterior Wall Height to Strive to Meet 45 CNEL **
	West	East	m	Nearest Residences	At 66 m	At 180 m	m
A	62840	62710	**4.0 (-0.7)**	65	62	55	**4.0 (-0.7)**
A'	62710	62580	**4.0 (-0.7)***	65	62	55	**4.4* (-0.3)**
B	62580	62550	**4.2 (-0.2)**	NA	NA	NA	4.4
C	62550	62390	**3.5 (-1.8)**	NA	NA	NA	**4.4 (-0.9)**
D	62390	62230	**3.5 (-2.7)**	NA	NA	NA	**4.0 (-2.2)**
E	62230	62070	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
F	62070	62010	**4.5 (-1.6)**	NA	NA	NA	**5.0 (-1.1)**
G	62010	61760	**3.5 (-3.2)***	65	62	56	**4.0* (-2.7)**
H	61760	61580	**3.0 (-3.7)**	65	62	55	**3.0 (-3.7)**
	61580	61540					
I	61540	61190	**3.5 (-1.0)**	67	63	57	**4 (-0.5)**
J	61190	60960	**4.0 (-0.5)**	67	63	58	**5.5 (+1.0)**
K	60960	60580	6	67	63	59	**6.5 (+0.5)**
L	60580	60440	7	67	63	60	**8 (+1.0)**
M	60440	60220	6.5	66	62	59	6.5
N	60220	59980	5.5	66	63	59	5.5
O	59980	59920	4.8	67	63	58	**6 (+1.2)**
P	59920	59860	4.3	67	63	58	**4.5 (+0.2)**
Q	59860	59740	**3.8 (-0.4)**	66	63	58	**5 (+0.8)**
R	59740	59700	**3.5 (-0.6)**	68	64	59	**6 (+1.9)**
S	59700	59660	**3.5 (-0.5)**	65	63	58	4
T	59660	59560	4	67	63	58	**5 (+1.0)**
U	59560	59480	4.5	67	63	58	**6 (+1.5)**
V	59480	59370	6	67	63	58	**8 (+2.0)**
W	59370	59180	6	66	63	58	6
X	59180	59100	4.3	67	63	58	**5 (+0.7)**
Y	59100	58990	**3.5 (-0.8)**	67	64	57	**4.5 (+0.2)**
Z	58990	58950	**0.6(-3.7)**	67	65	57	**1 (-3.3)**

* Height of wall needs to be higher at this location to protect adjacent mobile home units.

** Numbers in parenthesis are the change in wall height from the proposed wall heights in reference 1.

NA—Not Applicable.

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